

# ANNEX II

## OPEN INVITATION TO TENDER

***AO/DSL/KPOUL-MSERA/ESJS/001/19***

***‘2nd European skills and jobs survey: Data collection on  
impact of digitalisation and technological change on skill  
mismatch of EU workers’***

## Tender Specifications

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# Introduction to Cedefop: Europe's agency for training policy

Source: <http://www.cedefop.europa.eu/EN/about-cedefop.aspx>

## About Cedefop

Cedefop is the European Union's agency for vocational education and training (VET). With its research and analyses, it supports the European Commission, EU Member States and social partners in designing and implementing VET policies, with a focus on how best to link education and employment.

European labour markets have been unsettled by globalisation, technological advances and demographic changes (ageing of the population and immigration). The economic downturn of the last decade has increased social inequality and geographical disparity. To address the economic, social, technological and environmental challenges, structural reforms both of labour markets and education and training systems are needed.

In this context, vocational education and training can help get people (back) into work and promote equality, inclusion and solidarity. VET is a pillar of lifelong learning, providing young people with an initial qualification and adults with upskilling options. VET caters both for the brightest, offering them interesting career prospects, and the most vulnerable, opening different pathways into the labour market.

Cedefop's work can be divided into three main strands:

### Shaping VET

VET systems and institutions must be relevant to individual and labour market needs. Cedefop fosters their renewal and modernisation in response to emerging policy needs and priorities. It monitors labour market changes and policy implementation in the EU Member States and reports on these.

VET systems need to take into account learning acquired in different ways and at different times and allow people to move between countries and sectors. Cedefop promotes the use of European tools such as qualifications frameworks which allow Europeans working or learning abroad to "take their qualifications with them" by facilitating understanding and recognition of these.

### Valuing VET

The ultimate goal of VET policy is to meet the needs of individuals: to strengthen their employability, help them find and keep jobs and allow them to make a good living. At individual countries' request, Cedefop reviews their VET policies and programmes to support effective implementation of European policies (e.g. work-based learning and apprenticeships) and policy learning between countries.

With its work on guidance and the validation of non-formal and informal learning, Cedefop promotes access to VET. It supports the inclusive role of VET by facilitating the (re)integration into education and training of low-skilled and other vulnerable groups.

### Informing VET

Cedefop looks into how socio-economic and demographic trends affect employment, nature of jobs and demand for skills in the labour market. It forecasts future skills needs and supply to help individuals, employers and policy makers to make informed decisions about education, training and careers. It identifies policies and practices to help policy makers and VET providers address skills mismatches.

Cedefop supports countries to develop their own intelligence and data on skills and employment needs.

### **Cedefop's information**

Cedefop shares its expertise through its publications, networks, conferences, seminars and web portal [www.cedefop.europa.eu](http://www.cedefop.europa.eu). All Cedefop publications are available for download. Cedefop hosts and organises conferences and events throughout the year.

In addition to its web portal [www.cedefop.europa.eu](http://www.cedefop.europa.eu), Cedefop's work can be followed on Facebook at [www.facebook.com/cedefop](https://www.facebook.com/cedefop) and Twitter at [www.twitter.com/cedefop](https://www.twitter.com/cedefop).

## 1 OVERVIEW OF THIS TENDER PROCEDURE

In submitting his tender in response to this tender procedure, the tenderer accepts in full and without restriction the requirements of these Tender Specifications, and the Special and General conditions governing this contract as the sole basis of this tendering procedure, whatever his own conditions of sale and terms of business may be, which he hereby waives. No account can be taken of any reservation or disclaimer expressed in the tender as regards the tender dossier's Tender Conditions and Specifications and the Contract's Special and General Conditions. If necessary, clarification may be requested by the potential tenderer concerned while the tender submission phase is open – see *point 7 of the Invitation to tender*. Any reservation or disclaimer may result in the rejection of the tender without further evaluation on the grounds that it does not comply with the conditions of the procurement documents.

Tenderers are expected to examine carefully and comply with all instructions, forms, contract provisions and specifications contained in this procurement documents. Failure to submit a Technical and a Financial Proposal containing all the required information and documentation may lead to the rejection of the tender.

### 1.1 Description and type of the contract

- a) **Title of the contract: “2nd European skills and jobs survey (ESJS): Data collection on impact of digitalisation and technological change on skill mismatch of EU workers”**
- b) Short description of content of this contract: The aim of this framework contract is to deliver a dataset that will enhance understanding by Cedefop and the wider research/policy community of the impact of digitalisation and technological change (including skills-displacing technologies / automation) on EU workers' job-skill requirements and skill mismatch.

This will be done by enabling detailed empirical analysis of the microdata collected from a survey of a representative sample of adult workers in each EU-28 Member State (plus Norway, Iceland subject to budget availability; the UK survey is dependent on final outcomes of the Brexit negotiations). The survey will be using a “master questionnaire (in English)” developed by Cedefop (in collaboration with an external group of experts). The contractor will be expected to carry out throughout the year 2020 appropriate cognitive and pilot testing of the survey instrument, revise the master questionnaire in accordance with relevant recommendations from the pre-testing phase and prepare high quality translated versions of the questionnaire and fieldwork materials in all relevant languages of the target countries.

After carefully developing and justifying the proposed sampling design, the main data collection/fieldwork is estimated to be carried out first half of 2021. In addition to delivery of the final micro dataset (following appropriate weighting and data labelling procedures and with all accompanying survey documentation e.g. codebook), a number of reports (data analysis, data quality and methodology, background survey materials) should be provided in line with the best frameworks, standards and practices at international level.

- c) Type of contract: Framework Service Contract, whereby the services will be provided following the signature of Order forms throughout its validity. The number and content of Order Forms /Specific Contracts will depend on the needs of Cedefop.

Cedefop will offer a single framework contract to the selected tenderer. The framework contract establishes the basic terms for a series of core and additional work assignments to be concluded over a period of maximum 4 years. The tasks foreseen under this contract will be performed by the contractor upon signature of separate order forms for different

work assignments issued by Cedefop throughout the duration of the contract. The final number and content of order forms will be determined at the request of Cedefop on a needs- and resources-based assessment. The content of each order form will be finalised in line with the tender and shall stipulate the tasks to be performed by the contractor, the deliverables, the timetable, the budget and the human resources/experts to be allocated.

## 1.2 Place of delivery or performance

The tasks must be completed in the Contractor's premises.

## 1.3 Division into lots

This tender procedure is not divided into lots.

## 1.4 Variants

Tenderers **may not** offer variant solutions to what is requested in the tender specifications. Cedefop will disregard any variants described in a tender, and reserves the right to reject such tenders without further evaluation on the grounds that they do not comply with the tender specifications.

## 1.5 Value or quantity of purchase

The estimated total budget for the required services described in this call for tenders is of the order of **1,500,000 EUR (without VAT)** over a **four (4)** year period. Cedefop will offer a single framework contract for a series of core and additional work assignments to be concluded over a period of maximum 4 years.

Tenderers should be aware that the information on volume is purely indicative, shall not be binding on Cedefop and should not be considered as a warranty as to the final value of the contract. The sum of the amounts of the successive Order Forms that will be issued after the Framework Contract is signed may not reach the above-mentioned estimated value for the Framework Contract. Cedefop will be contractually bound only by the amounts effectively entered in the successive signed Order Forms. The total value of the framework contract will ultimately depend on the orders which Cedefop may place through Orders Forms.

Specific contracts/Order forms shall be established on the basis of the unit prices indicated in the offer attached to the Framework Contract (Annex B). However, Cedefop may request the contractor to propose supplementary services of the same type as those listed in the offer ( See point 1.2 Annex 1 of the Financial Regulation<sup>1</sup>). The supplementary elements may not depart from the essential terms fixed in the framework contract and may be requested only if they are absolutely necessary for the execution of the request for services. Supplementary elements will be ordered on the basis of a quote provided by the contractor which shall require prior approval by Cedefop.

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<sup>1</sup> Regulation (EU, Euratom) 2018/1046 of the European Parliament and the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union. See: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32018R1046>

In the case where unforeseen circumstances result in the global value of this contract being consumed faster than originally planned, Cedefop reserves the right to consider conducting a 'Negotiated procedure without prior publication of a contract notice' with the existing contractor(s) in order to increase the maximum amount stated above by up to 50% ceiling of the contract (Point 11.1(e) Annex 1 of the EU Financial Regulation).

## 1.6 Duration of the contract

The contract shall enter into force on the date of signature of the last contracting party, shall have initial duration of two (2) years and will be automatically renewed up to two (2) times, each for an additional period of one (1) year, covering a total acquisition period of four (4) years (2+1+1).

## 1.7 Main terms of financing and payment

Payments will be made upon completion of specific tasks and after the approval of specific deliverables as stated in section 2.3.3 by the Cedefop Project Manager, within 60 days of submission of invoices and at the conditions set out in the draft contract

The following payments for each order form are foreseen. Payments will be made as follows:

- **First Interim payment: (30%)** after submission of first progress report and within 60 days of submission of invoices and at the conditions set out in the draft contract
- **Second Interim payment: 30%** after submission of second progress report and within 60 days of submission of invoices and at the conditions set out in the draft contract.
- **Payment of the balance: 40%** after submission of final report and within 60 days of submission of invoices and at the conditions set out in the draft contract.

For further details please refer to the draft contract (Annex B).

## 2 TERMS OF REFERENCE (FOR SERVICE TENDERS)

### 2.1 Background

#### 2.1.1 Digitalisation, technology and the future of work and skills

Within the context of the contemporary debate on the future of work <sup>(2)</sup>, academic and policy interest has significantly focused in recent years on understanding the relationship between technological change/digitalisation (specifically Industry 4.0 technologies, including automated machine processes, virtual reality, advanced robotics, artificial intelligence, 3D printing etc.) and changes in labour market outcomes of individuals. The debate has specifically sought to understand the impact of robots, machines and artificial intelligence methods on employment or wages <sup>(3)</sup>, impact on job polarisation and the estimated risk of automation <sup>(4)</sup> and if and how skills requirements are changing or are likely to change in the future. Moreover, there is significant interest in exploring how digitalisation is fostering new forms of work (e.g. in the platform economy) <sup>(5)</sup>, if workers' skill development and lifelong learning opportunities will enable them to cope with widening inequalities in a 'digital' world of work or if an 'upskilling' or 'reskilling' revolution will eventually transpire <sup>(6)</sup>.

In particular, new technological developments associated with the so-called 4<sup>th</sup> industrial revolution and digitalisation are said to be exerting a marked impact on skill needs and are also influencing workers' abilities to develop and utilise their skills. [Cedefop's first European skills and jobs survey](#) (ESJS), for instance, revealed that 43% of EU adult employees recently experienced new technologies at work, such as new machines and ICT systems. Using Cedefop's ESJS data and the Cedefop skills forecast 2018, Pouliakas (2018) and Suta et al. (2018) show that about 14-18% of EU jobs are at significant risk of automation. Importantly, it is found that automation risk is significantly higher in routine jobs that do not offer any vocational training and is more likely to affect low-educated workers, who are characterised by large skill gaps in their digital, communication, team-working, planning and problem-solving skills.

The digitisation of work processes and job automation is thus said to be fundamentally transforming jobs and occupations, destroying some and creating others, while exerting a significant impact on work organisation for most of the labour force. While there is divergence in estimates of the risk of automation, most of the discourse tends to agree that digitalisation and technological advances are transforming/will transform labour markets by affecting the task structure and required skill sets in a majority of jobs. However, there is a need for further clarity as to the degree to which technological changes facilitate polarisation of the occupational structure of

<sup>(2)</sup> McKinsey Global Institute (2017) [Technology, Jobs and the future of work](#) ; World Economic Forum [Preparing for the future of work](#); ILO [The future of work](#); EPSC (2016) [The future of work: Skills and resilience for a world of change](#); Cedefop project [Digitalisation and the future of work](#) ; Schwab, K. (2016). *The fourth industrial revolution*, WEF: Geneva.

<sup>(3)</sup> Acemoglu, D. and Restrepo P. (2017), "Robots and Jobs: Evidence From US and the Labour Markets; Autor, D.H. (2015), "Why are there still so many jobs? The history and future of workplace automation"; Bessen, J.E. (2016), "How Computer Automation Affects Occupations: Technology, Jobs, and Skills"

<sup>(4)</sup> Frey, C. and Osborne, M. (2017), "*The future of employment: how susceptible are jobs to computerisation*", *Technological Forecasting & Social Change*, Vol. 114 (2017), pp. 254–280;  
- Arntz, M., Gregory, T. and Zierahn, U. (2016), "The Risk of Automation for Jobs in OECD Countries", *OECD Social, Employment and Migration Working Papers, No. 189*, OECD Publishing, Paris;  
- Nedelkoska, L. and G. Quintini (2018). "Automation, skills use and training", *OECD Social, Employment and Migration Working Papers*, No. 202, OECD Publishing, Paris. <http://dx.doi.org/10.1787/2e2f4ee4-en>;  
- Pouliakas, K. (2018) "The risk of automation in EU labour markets: a skill-requirements approach", in *Economy, Employment and Skills: European and global perspectives in an age of uncertainty*, Fondazione Giacomo Brodolini Quaderni Series.

<sup>(5)</sup> Kassi, O., and Lehtonvirta, V. (2018). [Online Labour Index: Measuring the Online Gig Economy for Policy and Research](#). *Technological Forecasting and Social Change (forthcoming)*; [Cedefop's CrowdLearn study](#)

<sup>(6)</sup> World Economic Forum (2018) [Towards a reskilling revolution](#)



employment in EU labour markets, in light of recent evidence that it is predominantly low-educated (as opposed to medium-skilled) workers facing a higher risk of automation and given that AI technologies have the potential to crowd out high-skilled tasks/white-collar jobs.

Furthermore, some researchers have noted that technological progress may be associated with the paradox of structural changes shifting economies towards less routine occupations, at the same time that even high-skilled work is becoming more 'routinised' over time <sup>(7)</sup>. This debate on whether or not technology is a force that breeds deskilling as opposed to upskilling of workers is not new; already from the 1970s and 1980s there has been a vibrant discussion on whether or not flexible specialisation implies job enrichment, worker autonomy and employee involvement as opposed to automation and computers reinforcing surveillance and employee control <sup>(8)</sup>.

Advances in big data and artificial intelligence methods are also enhancing the capability of organisations and individuals to pursue better skills matches themselves, by improving understanding of changing skill needs, while organisations are also increasingly employing algorithmic techniques in human resource management (including recruitment, performance appraisal, training plans etc.). Digitisation is also shifting the boundaries of 'atypical' work outside traditional organisational spaces, giving rise to new tasks and skills required to be successful in online 'platform' or freelance markets <sup>(9)</sup>. Moreover, it is facilitating new forms of individual learning (e.g. open education resources, Massive Open Online Courses - MOOCs, virtual reality apps, gamification etc.) and sector-/job-specific certifications of individuals' skills outside of the confines of formal educational institutions.

Such mega-trends shaping the *future of work* have stimulated marked policy concerns for emerging skill gaps and skills obsolescence affecting workers and the need for investment in lifelong learning policies to mitigate them, as well as prevent a 'digital divide' <sup>(10)</sup>. The aforementioned transformative forces are posing significant strain but also opportunities for education and training systems and individuals' continuing learning, accentuating the need for efficient, responsive and forward-looking education and training (especially lifelong learning) policies, to prevent emerging inequalities and social exclusion <sup>(11)</sup>.

To that effect, the issue of improving people's skills, competences and knowledge is now clearly at the top of the European policy agenda. The new "[\*Skills agenda for Europe: Working together to strengthen human capital, employability and competitiveness\*](#)" <sup>(12)</sup> was launched in 2016 at EU level to support Member States in ensuring that their skills and qualifications systems are characterised by transparency, relevance and high quality. The European Commission [Digital Agenda](#), aimed at formulating policies to better exploit the potential of ICTs for innovation, economic growth and progress, as well as promoting digital literacy, skills and inclusion also forms one of the seven pillars of the Europe 2020 Strategy <sup>(13)</sup>. A key input to that Agenda is the [Digital Economy and Society Index \(DESI\)](#), a composite index of relevant indicators of Europe's digital performance, one of which is Human Capital <sup>(14)</sup>. Another important policy initiative of the EU includes the [Council Recommendation on Key Competences for Lifelong Learning](#) <sup>(15)</sup>, a

<sup>(7)</sup> Eurofound (2016) [What do Europeans do at work? A task-based analysis: European Jobs Monitor 2016](#)

<sup>(8)</sup> Handel (2017) 'Measuring job content: Skills, technology and management practices', [Oxford Handbook of Skills and Training](#), Oxford University Press.

<sup>(9)</sup> Pesole et al. (2018) [Platform workers in Europe: evidence from the COLLEEM survey](#) ; [Cedefop CrowdLearn study](#) 'Skills formation and skills matching in online platform work' (with University of Oxford Internet Institute and University of West London)

<sup>(10)</sup> Cedefop (2017) [The great divide: Digitalisation and digital skill gaps in the EU workforce](#), #ESJSurvey Insights No. 9

<sup>(11)</sup> Sekmokas, M. and Pouliakas, K. (2018) 'Automation, skills demand and adult learning', [Investing in Europe's future: the role of education and skills](#), European Investment Bank, Economics thematic studies.

<sup>(12)</sup> European Commission (2016) <http://ec.europa.eu/social/main.jsp?catId=1223>

<sup>(13)</sup> <https://ec.europa.eu/digital-single-market/en/europe-2020-strategy>

<sup>(14)</sup> <https://ec.europa.eu/digital-single-market/en/desi>

<sup>(15)</sup> [https://ec.europa.eu/education/education-in-the-eu/council-recommendation-on-key-competences-for-lifelong-learning\\_en](https://ec.europa.eu/education/education-in-the-eu/council-recommendation-on-key-competences-for-lifelong-learning_en)

major part of which acknowledges the need to raise the level of achievement in basic skills (including digital skills), fostering the acquisition of competences related to technology and sciences and increasing the level of digital competences at all stages of education and training, across all segments of the population. To that effect the European Commission has set up a [Digital Education Action Plan](https://ec.europa.eu/education-in-the-eu/digital-education-action-plan_en) <sup>(16)</sup> aimed at making better use of digital technology for learning and developing digital skills, while it has developed the [European Digital Competence Framework \(DigComp\)](https://ec.europa.eu/jrc/en/digcomp) <sup>(17)</sup> as a tool for improving assessment of citizens' digital competence.

### 2.1.2 Cedefop's 1<sup>st</sup> European skills and jobs survey

Cedefop's European skills and jobs survey (ESJS) constituted the Centre's first large-scale EU-wide survey, carried out to investigate the determinants of skills formation and skill mismatch among EU adult workers. It was a state-of-the-art survey of about 49,000 adult employees (aged 24-65) carried out in 2014 in the 28-EU Member States using a mixed-mode (online and telephone supplements) quota-sampling approach. The survey focused on obtaining deeper understanding of the complexities and drivers of skill mismatch in EU labour markets, for the purposes of informing the EU's vocational education and training, skills and employment agenda.

The survey helped, at a time of pronounced economic recession/crisis, to better understand how individuals' qualifications and skills are matched (or not) to the changing skill demands and complexities of their jobs. It also looked at the extent to which employees' skills are developed and used in their workplaces over time. The ESJS also provided insights into the degree and type of training and skill formation of employees (non-formal, informal, out-of-work or on-the-job, employer- or privately-financed etc.), within the context of changing task variety and learning needs in jobs. It collected data on the extent of digitalisation, changing technologies and other innovation changes in the workplace and associated gaps in digital and other basic and transversal skills <sup>(18)</sup>. The survey enabled examination of the association between different forms of skill mismatches and a variety of labour market outcomes (earnings, job satisfaction, job insecurity and skills obsolescence) <sup>(19)</sup>. It was further used to examine the sustainability challenges of the labour market reintegration of the unemployed <sup>(20)</sup>, determinants of overeducation <sup>(21)</sup> and of other skill mismatch transitions of EU workers as well as in detecting factors explaining gender wage gap in Europe <sup>(22)</sup>.

A significant number of Cedefop reports, articles and blogs were published <sup>(23)</sup>, dedicated workshops and a special issue of an academic journal focused on skill mismatch was produced <sup>(24)</sup>, multiple reports/documents of international and national organisations utilised and

<sup>(16)</sup> [https://ec.europa.eu/education-in-the-eu/digital-education-action-plan\\_en](https://ec.europa.eu/education-in-the-eu/digital-education-action-plan_en)

<sup>(17)</sup> <https://ec.europa.eu/jrc/en/digcomp>

<sup>(18)</sup> Cedefop (2015) *Skills, qualification and jobs: the making of a perfect match?*. Luxembourg: Publications Office. Cedefop reference series, No. 103; Cedefop (2018). *Insights into skill shortages and skill mismatch: learning from Cedefop's European skills and jobs survey*. Luxembourg: Publications Office. Cedefop reference series: No 106.

<sup>(19)</sup> McGuinness, S., Pouliakas, K. and Redmond, P. (2016), 'Skills mismatch: concepts, measurement and policy approaches', *Journal of Economic Surveys*, Vol. 32(4), pp. 985-1015.

<sup>(20)</sup> Cedefop (2018). *From long-term unemployment to a matching job: The role of vocational training in sustainable return to work*. Luxembourg: Publications Office. Cedefop reference series; No 106.

<sup>(21)</sup> McGuinness, S. and Pouliakas, K. (2017), "Deconstructing Theories of Overeducation in Europe: A Wage Decomposition Approach" in Polachek et al. (2017) *Skill mismatch in labour markets*, joint Cedefop-IZA special issue, *Research in Labour Economics*, Emerald Publishing.

<sup>(22)</sup> Redmond, P. and McGuinness, S. (2017) 'The gender wage gap in Europe: Job preferences, gender convergence and distributional effects', IZA DP. 10933.

<sup>(23)</sup> All relevant reports and documentation is available at the Cedefop web portal <http://www.cedefop.europa.eu/en/events-and-projects/projects/european-skills-and-jobs-esj-survey>

<sup>(24)</sup> Polachek et al. (2018) *Skill Mismatch in Labor Markets (Research in Labor Economics, Volume 45)* <https://www.emeraldinsight.com/doi/book/10.1108/S0147-9121201745>

cited the data while the microdata and key statistics were also made publicly available via Cedefop's web portal and the Skills Panorama <sup>(25)</sup>.

Ultimately, the analysis informed a diverse audience of vocational education and training providers (VET) and labour market policy-makers and the social partners, and provided important lessons for policy-making geared towards tackling the phenomenon of skill mismatch in European job markets.

### 2.1.3 Cedefop's skills analysis

The ESJS, especially its second wave, is an integral component of Cedefop's new thematic activity '[Digitalisation and the future of work](#)' <sup>(26)</sup> and will seek to augment the Centre's available stock of evidence-based knowledge. The thematic activity has focused to date on analysing the impact and drivers of automation, robotics, artificial intelligence and other digital technologies on employment and changing skill needs of jobs. It also examines the implications of new forms of digital labour, such as platform or crowd work, for individual's skills development and skill mismatch. The insights of the research aim to inform policy regarding the future of vocational education and training in Europe.

The evidence collected as part of the activity is complemented by a number of other undertakings that take place as part of [Cedefop's skills and labour market analysis](#) <sup>(27)</sup>. [Cedefop's European skills forecasts](#) <sup>(28)</sup>, analysing trends and developing projections of skill demand and skill supply across industries/occupations in EU countries, have been a core input to debates on future developments in European labour markets for more than a decade. Cedefop's newly developed EU-wide system to collect and analyse data on skill demand based on information from [online job postings](#) <sup>(29)</sup> constitutes another key contribution that may enable deeper understanding of cross-country differences in employers' skill demand and of emerging skills in the face of changing technologies. Using available intelligence on labour market trends for the betterment of the design of vocational training policy and improving anticipatory capacity of EU countries, is the focus of [Cedefop's skills governance country support reviews](#) <sup>(30)</sup> and its [Matching skills](#) online information tool. Via the [Skills Panorama](#) <sup>(31)</sup>, Cedefop also maintains a unique online central access point for available intelligence on skill needs in countries, occupations and sectors across Europe.

## 2.2 Description of the contract

### 2.2.1 Cedefop's 2<sup>nd</sup> European skills and jobs survey

After having reviewed and evaluated the value-added of the first wave of the survey, Cedefop has decided to proceed with implementation of a second wave of the ESJS, with fieldwork to take place first half of 2021.

To align the focus of the survey to current policy and research concerns (as described in 2.1.1), and after taking into account the content of new cycles of other major international household surveys (Eurofound's European Working Conditions Survey, OECD PIAAC, Eurostat Community Survey on ICT usage, Eurostat Adult Education Survey), Cedefop has decided to modify the focus of the 2<sup>nd</sup> wave of the ESJS.

<sup>(25)</sup> <https://skillspanorama.cedefop.europa.eu/en/indicators-list>

<sup>(26)</sup> <http://www.cedefop.europa.eu/en/events-and-projects/projects/digitalisation-and-future-work>

<sup>(27)</sup> <http://www.cedefop.europa.eu/en/themes/identifying-skills-needs>

<sup>(28)</sup> <http://www.cedefop.europa.eu/en/events-and-projects/projects/forecasting-skill-demand-and-supply>

<sup>(29)</sup> <http://www.cedefop.europa.eu/en/events-and-projects/projects/big-data-analysis-online-vacancies>

<sup>(30)</sup> <http://www.cedefop.europa.eu/en/events-and-projects/projects/assisting-eu-countries-skills-matching>

<sup>(31)</sup> <https://skillspanorama.cedefop.europa.eu/en>

In particular, the 2<sup>nd</sup> wave of the ESJS will adopt a stronger focus on the relationship between technological change, digitalisation and skill formation/mismatch of EU adult workers:

### Focus of 2<sup>nd</sup> ESJS

*The 2<sup>nd</sup> ESJS should aim to collect comparative EU-wide information enabling investigation of the impact of technological change and digitalisation (including automation) on workers' skill mismatch/obsolescence <sup>(32)</sup> and their readiness to adapt to changing skill needs via remedial learning practices <sup>(33)</sup>.*

#### 2.2.2 Global objective

The general purpose of this single framework contract is to organise and implement an EU-wide survey and deliver a dataset which aims at meeting the following **global objectives**:

- 1) understanding of the severity of exposure and recent trends in the use of digital, automating and non-ICT technologies by EU workers in a cross-country comparative context;
- 2) understanding of how technological change and digitalisation in EU workplaces is affecting skills and learning needs and skill mismatches of EU workers;
- 3) understanding of what forms of (formal, non-formal and informal) learning and human resource management (HRM) practices can facilitate EU workers' adaptiveness to changing technologies and digitalisation at their workplaces;
- 4) informing EU policy development, and in particular the European Skills and Digital Agendas.

The main deliverable of this contract will be a final 'master dataset', which should contain a minimum of 29,200 individual completed cases/observations<sup>34</sup>, compiled following a large-scale data collection from a representative sample of adults, aged 25-64 years, in wage and salary employment from each of the 28 EU Member States (plus NO, IS subject to budget availability; the UK survey is dependent on the final outcomes of the Brexit negotiations), in alignment with the minimum technical requirements/specifications of the contract (see section 2.3 below).

The 'master dataset' (along with all necessary supporting documentation/codebook and analytical reports) should allow for derivation of unbiased descriptive statistics capturing the incidence of key (digital, automating and non-ICT) technologies used at work, especially those with greater impact on workers' skills (e.g. skills-displacing technologies) and job tasks, the share of EU workers affected by skill mismatches or the proportion engaging in accommodative learning or other HRM practices when subjected to changing workplace technologies. It should be conducive to fostering in-depth empirical analysis and understanding of how the introduction and use of different (digital, automating or non-ICT) technologies at the workplace can foster upskilling, deskilling or skills gaps/obsolescence of workers, potentially via the impact they may have on the task content and skill needs of individuals' jobs. For that end, the questionnaire should also collect relevant demographic, socioeconomic and job/workplace-related characteristics to be used as explanatory variables in empirical analyses.

To implement the survey the contractor will use a draft "master questionnaire (in English)" that will be developed and provided by Cedefop (in cooperation with an external expert working group, organised and financed outside of the remit of the contract). The final version of the questionnaire

<sup>(32)</sup> e.g. mediated via its impact on workers' job tasks and skill needs.

<sup>(33)</sup> Within the context of their organisational learning environment e.g. managerial and employee agency concerns, workplace practices, job performance incentives etc.

<sup>(34)</sup> Or a minimum of 31,200 individual completed cases/observations if the sample includes Norway and Iceland, subject to budget availability; the UK survey is subject to the final outcomes of the Brexit negotiations.

to be used in the fieldwork will be drafted in close consultation with the contractor and revised following extensive cognitive and pilot testing phases. The results of these pre-tests should be communicated in a timely manner to Cedefop and the contractor will be expected to issue recommendations that can improve the survey instrument from a cross-national comparative perspective and take Cedefop's final decisions on questionnaire development into account<sup>(35)</sup>. The contractor will ensure high quality translation of the 'master questionnaire' in all relevant languages of the target countries, taking into consideration feedback and suggestions from Cedefop (and national experts from its associated EU networks, whom Cedefop may consult for further refinement/validation of the quality of national questionnaires). Following careful justification and proof-testing of the proposed sampling design and survey methodology, the contractor will prepare all necessary fieldwork materials and technical infrastructure, carry out the main fieldwork and prepare and submit all necessary supporting documentation (codebook, survey guidelines, data quality and data analysis reports).

### 2.2.3 Specific objectives

The final dataset should collect relevant information that may enable Cedefop to obtain informed insight into (a subset of) the research questions of Table 1 below and satisfy the following **specific research objectives**:

#### Technological change and digitalisation:

1. estimate the share of EU workers who use (digital, automating and non-ICT) technologies at work and possibly the intensity of use;
2. estimate the share of EU workers affected by recently introduced or changed (digital, automating and non-ICT) technologies in their workplaces, the severity of exposure and its implications for workers' learning and skill needs;
3. estimate the share of EU workers with changed job-skill requirements, following recently introduced or changed (digital, automating and non-ICT) technologies at their workplace;
4. estimate the share of EU workers affected by algorithmic human resource management practices at their workplace.

#### Skill mismatch

1. assess and estimate the share of EU adult workers affected by different forms of skill mismatch;
2. estimate the extent to which EU adult workers' skills need to further develop so as to maintain proficiency in the face of changing work technologies.

#### Relationship of digitalisation and skill mismatch

1. allow for appropriate breakdowns of the main variables of interest, namely use and intensity of (digital, automating and non-ICT) technologies and skill mismatch, by demographic (e.g. gender, age), socioeconomic (e.g. education level, occupation, industry, social class, income), job/workplace-related characteristics (e.g. job tasks, contract type, work hours, sector, occupation, workplace HRM practices);
2. enable in-depth empirical analysis of the relationship between technological change, digitalisation and automation and skill formation/mismatch of EU workers, controlling for relevant confounding variables;

<sup>(35)</sup> Cedefop also reserves the right to carry out supplementary internal/external survey validity tests based on the outcomes of the cognitive/pilot testing phases and make recommendations for adjustment to the contractor (such activity would be carried out outside of the remit and budget of the existing contract and will rely on the inputs of members of Cedefop's ESJS external expert working group).

3. explore if continuing vocational training and other organisational learning and HRM practices are used to facilitate EU workers' adaptiveness to changing technologies and digitalisation at their workplaces;
4. examine the labour market consequences (wages, job satisfaction, job insecurity, job transitions) of greater exposure to recent or changed technologies/digitalisation at work, mediated by the potential impact on skills mismatch and any accommodative worker learning or HRM practices.

To meet the above goal(s), the questionnaire of the ESJS's second wave would have to be altered and/or augmented, relative to the first wave, to enable data collection and investigation of the impact of recent technological changes at work on workers' skill needs/mismatch.

Examples of (new) survey items that Cedefop, in consultation with an expert working group, is considering to include in the revised questionnaire of the 2<sup>nd</sup> ESJS are:

- **Technologies and digitalisation** (e.g. type of ICT/automating/non-ICT technologies, if any, affecting a worker's job tasks; whether employees' tasks have been automated/replaced by machines in recent years; employee assessment of future automation; if employees have engaged in secondary online work; use of algorithmic human resource management practices in workplace);
- **Tasks and skill needs** (e.g. task structure of jobs; importance of skill needs; changes in tasks and skill needs over time);
- **Skill mismatch & obsolescence** (e.g. skill mismatch at hiring, current skill mismatch, margin for skills improvement following introduction of new technologies);
- **Employee learning** (e.g. remedial training to enable workers to cope with changing technologies; training provided at work using any digital content; use of online learning resources);
- **Employee involvement** (e.g. employee autonomy and empowerment, pay incentives and performance appraisal schemes, team-work, managerial and supervisory commitment to learning, peer learning methods) <sup>(36)</sup>.

Ultimately the questionnaire should enable the inclusion of a selected battery of survey items, based on clear understanding of the channels (partial and equilibrium) through which technological changes impact on labour markets <sup>(37)</sup>, that will enable derivation of a measure of technological/digital intensity of jobs, of recent changes and their impact on skills needs and skill mismatch/obsolescence, as well as other labour market outcomes (wages, job satisfaction, job insecurity, job mobility).

Table 1 below describes an extended list ('universe') of relevant topics/research questions that the 2<sup>nd</sup> ESJS may seek to address, based also on inputs from Cedefop's ESJS external expert working group. However, Cedefop understands that pragmatic considerations of balancing survey content and length will entail the selection of a subset of priority topics from this list to be included in the final 2<sup>nd</sup> ESJS questionnaire.

**Table 1. 'Universe' of potential research questions for 2<sup>nd</sup> ESJS (questions of highest priority indicatively indicated in italics)**

<b>A. Technologies/digitalisation at work</b>	
•	<i>How many (and/or how frequently) EU workers use particular (digital, automating and non-ICT) technologies at work?</i>
•	<i>How many EU workers have been affected by recently introduced or changed (digital, automating</i>

<sup>(36)</sup> Russo (2017) *Job design and skill development in the workplace*, in Polacheck et al. (2017) 'Skill mismatch in labour markets', joint Cedefop-IZA special issue, *Research in Labour Economics*

<sup>(37)</sup> Goos, M. (2018), 'The impact of technological progress on labour markets: Policy challenges', *Oxford Review of Economic Policy*, 34(2), pp. 362-375.



<p><i>and non-ICT) technologies in their workplaces?</i></p> <ul style="list-style-type: none"> <li>• <i>Which workplace technologies have/are exerting a significant impact on workers' job tasks/profile?</i></li> <li>• <i>How many (and/or how frequently) EU workers are exposed to algorithmic human resource management practices at their workplace (e.g. recruitment, performance appraisal, training)?</i></li> <li>• <i>Is there inequitable access of EU workers to (digital, automating and non-ICT) technologies at work, depending on their socio-economic/demographic background?</i></li> <li>• <i>For how many EU workers is digitalisation facilitating engagement in additional (secondary) work, in particular via online labour platforms?</i></li> </ul>
<p><b>B. Impact of technological change/digitalisation on jobs and skill needs</b></p> <ul style="list-style-type: none"> <li>• <i>What are EU workers' perceptions of the risk of automation in their jobs and how does it impact their job security/current and future skill development needs?</i></li> <li>• <i>How many EU workers had lost a job due to the introduction of automating processes in their previous workplace?</i></li> <li>• <i>How many EU workers have experienced changing job tasks and skill needs due to the introduction of digital or automating technologies in their workplace and in what form?</i> <ul style="list-style-type: none"> <li>▪ <i>e.g. substitution of routine for non-routine/cognitive tasks? rising employee autonomy? need for socioemotional skills? more task specialisation? diminishing work flexibility?</i></li> </ul> </li> <li>• <i>Are new technologies in EU workplaces enriching jobs or are they associated with lower job quality?</i></li> </ul>
<p><b>C. Relation between technological change/digitalisation and skill mismatch</b></p> <ul style="list-style-type: none"> <li>• <i>Is the introduction of (digital, automating or non-ICT) technologies at EU workplaces associated with more or less skill mismatch?</i></li> <li>• <i>Is the net effect of technological change on job-skills requirements positive or negative?</i></li> <li>• <i>Does technological change and digitalisation induce worker upskilling or deskilling (e.g. greater work specialisation)?</i></li> <li>• <i>Which type of technology exerts the most significant impact on the skill formation/mismatch of EU workers?</i></li> <li>• <i>What is the margin for additional skill development of EU workers so as to be proficient with the use of recently introduced or changed technologies at work?</i></li> <li>• <i>What skills are most likely to disappear / become obsolete due to recently introduced or changed technologies at EU workplaces?</i></li> </ul>
<p><b>D. Technological change/digitalisation and accommodative learning</b></p> <ul style="list-style-type: none"> <li>• <i>What share of EU workers received training to cope with recently introduced technologies at work, either employer- or individual-sponsored?</i></li> <li>• <i>What are the most typical skill development channels used by EU workers to cope with recently introduced or changed technologies at work?</i></li> <li>• <i>What are the most frequent new skills EU workers have learnt in response to recently introduced or changed technologies at work?</i></li> <li>• <i>What is the intensity (e.g. training time, participation in continuing training) needed to learn new skills to cope with recently introduced or changed technologies at work?</i></li> <li>• <i>How well do EU workers think they have coped with recent technological changes at work? How easy or difficult was the adjustment process?</i></li> <li>• <i>What other (non-digital) skills are complementary to the use of digital technologies by EU workers?</i></li> <li>• <i>What supportive organisational/workplace features can reinforce the process of workers' skills development in response to recently introduced technologies at work?</i></li> </ul>
<p><b>E. Impact of technological change/digitalisation on individual outcomes</b></p>

- *What is the impact of recent workplace digitalisation and technological change (including automation) on individuals' labour market outcomes?*
  - Previous job displacement
  - Between- and within-job transitions
  - Earnings
  - Skills demand / mismatch / obsolescence
  - Inequality (career prospects, incomes, learning opportunities)
  - Job satisfaction
  - Job insecurity

## 2.3 Requested Services and Outputs

### 2.3.1 Requested services

The aim of the contract is to engage in the collection of data on the technologies used at work and the impact of technological change/digitalisation on skills development/mismatch of a representative sample of adult workers (aged 25-64) from each EU Member State.

The contractor will be hence requested as part of the order forms of the contract to provide a number of services/deliver tasks as part of specific work assignments, as specified below:

#### 2.3.1.1 Core services

The 'core' services of the framework contract, which will be requested in separate order forms, comprise of seven aggregate work assignments (WA) and related tasks within them:

**Table 2. Description of core work assignments and tasks**

Work assignment	Task
WA1	<p><b>Contribution to finalisation of the master questionnaire</b></p> <p>Comment and provide expert advice to fine tune the draft questionnaire provided by Cedefop (prepared in cooperation with an external group of experts and financed outside of the remit of the contract) and, in close collaboration with Cedefop, agree on an English master survey questionnaire. In particular, the contractor will help in refining and proposing alternative formulations and/or phrasing of questions, where appropriate, based on experience with carrying out cross-national comparative surveys.</p> <p>The contractor shall pay particular attention to ensuring that the data collected on education, occupation and industry variables adhere to current international standards ISCED, ISCO and NACE and that a transparent reference approach is utilised. The contractor should ensure that good practices established at international level are followed (e.g. National Labour force surveys, European Social Survey, European working conditions survey).</p> <p>Based on best practice from other EU/international surveys, prepare relevant supportive background documentation, outlining concept definitions and operationalisation of each variable of the 2<sup>nd</sup> ESJS survey questionnaire.</p>
WA2	<p><b>Refinement of the sampling design/strategy</b></p> <p>Develop and carefully proof-test the proposed sampling design (e.g. probabilistic random sampling; quota sampling) and sample selection (e.g. sample size; sampling frames; response rates) and implementation approach (e.g. sampling procedure, ensuring high response rates), as well as justify the proposed strategy and weighting scheme(s) (e.g. elements of statistical and non-statistical precision of estimates in total survey error perspective, confidence intervals, design effects etc.). Define and implement a strategy to minimise sampling and non-sampling errors (achieving target</p>



	<p>samples, minimise coverage errors, non-response and other measurement errors)</p> <p>Identify a uniform general sampling strategy and justify operational implementing option at country level if needed.</p> <p>Following discussion and approval of the adopted sampling strategy with Cedefop, prepare a detailed sampling plan to be tested as part of the pilot pre-testing phase.</p>
WA3	<p><b>Revision of the master questionnaire following cognitive testing</b></p> <p>Revise the master questionnaire in light of the main insights gained following an extensive cognitive testing phase, in close consultation with Cedefop.</p>
WA4	<p><b>Translation of survey instrument</b></p> <p>Develop national (translated) questionnaires for all relevant languages of the target countries, taking into consideration feedback and suggestions from Cedefop (and national experts from its associated EU networks, whom Cedefop may consult for further refinement/validation of the quality of national questionnaires).</p> <p>Assist Cedefop in developing a glossary of most difficult to translate terms and of the most appropriate national term adopted for use by the national version of the ESJS questionnaire.</p> <p>Provide extensive evidence of the suitability/quality of the translation protocol used.</p>
WA5	<p><b>Pre-testing of survey instrument and national questionnaires</b></p> <p>Organise and implement pre-testing of the national draft survey questionnaires, in close consultation with Cedefop, and after taking into account recommendations made by Cedefop on the basis of internal/external survey validity tests (carried out/financed by Cedefop outside of the remit of the contract).</p> <p>Analyse the results of the pre-tests and identify to what extent and how questions/scales may need reformulation to support correct understanding by respondents and to avoid differences in interpretation between the target countries.</p> <p>Revise and finalise the master and national questionnaires in light of the main outcomes of the pre-testing phase, in close collaboration with Cedefop (and its external group of experts).</p>
WA6	<p><b>Implementation of the survey: Fieldwork</b></p> <p>Develop a detailed planning and organisation scheme and set up a timetable and quality control measures for all stages of survey implementation, to be discussed with Cedefop before the fieldwork starts.</p> <p>Program the survey protocol using the national questionnaires of all target countries.</p> <p>Organise and provide all necessary training and preparatory materials to interviewers in anticipation of the fieldwork.</p> <p>Carry out the fieldwork in the target countries in line with the requirements as stated in the suggested methodology (see point 2.3.2 below).</p>
WA7	<p><b>Data processing: preparation and delivery of master dataset and supporting background technical documentation</b></p> <p>Process, edit and check the microdata. Implement appropriate weighting and estimation procedures. Produce a data codebook, descriptive data analysis report and technical data quality report (covering the sampling precision and accuracy of estimates, possible design effects at country level etc.). Prepare the master dataset to be delivered to Cedefop. Carry out supplementary analyses, subject to the outcomes of feasibility testing, such as (i) classification/clustering analyses of unstructured information on new workplace technologies and skill needs, using machine learning methods and/or (ii) linking the master employee dataset to an EU/international employers' register.</p>

### 2.3.1.2 Additional order forms

In addition to the 'core' services and tasks requested as part of the contract, Cedefop reserves the right to request for additional order forms, such as collecting samples of adult employees from

Norway and Iceland and integrating them into the master dataset. The request for additional order forms will be dependent on a needs- and resources-based evaluation by Cedefop. In all cases and for all order forms to be signed, the task-assignment procedure described in detail in section 2.4 applies.

### 2.3.2 Methodology

The objective of this tender is to conclude a Framework Contract for the timely and high quality preparation and implementation of the 2<sup>nd</sup> European skills and jobs survey (ESJS).

The contractor should execute the tasks as described below with high quality assurance, respecting the relevant legislation and be in compliance with the ICC/ESOMAR International Code on Market, Opinion and Social Research and Data Analysis and the ESOMAR/WAPOR Guideline on Opinion Polls and Published Surveys<sup>(38)</sup>. The contractor should exhibit compliance with high ethical standards and data protection regulations, both nationally and at EU level<sup>(39)</sup>, as evidenced by their adherence with an Ethics and Data Protection strategy outlined in the technical proposal and eventually included as part of the contract.

To ensure comparability between countries, the contractor will ensure that methods and procedures are applied consistently in all the countries covered and will ensure compliance with the specifications within the timeframe allocated to the project. Cedefop understands that in order to achieve maximum comparability, it may be beneficial to allow for variation between countries, however, the contractor is expected to have justified and documented such national deviations where they are envisaged in their technical proposal.

The contractor is required to set up a single central **coordination team**, responsible for the management and performance of national contact points and for communication with Cedefop (in English), and utilise **national contact points** (located in each of the countries covered by the contract) to carry out country-specific tasks for the preparation and implementation of the 2<sup>nd</sup> ESJS<sup>(40)</sup>.

In developing the 2<sup>nd</sup> ESJS, contractors should be aware of (and reflect in their proposal) possible risks and challenges in survey implementation, and consider the need for design of appropriate cognitive/pilot tests and alternative measurement approaches, so as to mitigate possible difficulties in:

- obtaining information about new vintages of technologies affecting workers' jobs due to lack of awareness, premature adoption in the workplace or lack of generalisability in economy;
- defining and collecting information based on a clearly defined taxonomy of (digital/non-digital) technologies;
- using explicit and factual survey questions that encompass diverse work situations whilst having stable meaning across respondents;
- obtaining unbiased samples of adult workers and estimates of the impact of technological change and digitalisation on their jobs and skills;

<sup>(38)</sup> [https://www.esomar.org/uploads/public/knowledge-and-standards/codes-and-guidelines/ICESOMAR\\_Code\\_English\\_.pdf](https://www.esomar.org/uploads/public/knowledge-and-standards/codes-and-guidelines/ICESOMAR_Code_English_.pdf); <https://www.esomar.org/uploads/public/knowledge-and-standards/codes-and-guidelines/ESOMAR-WAPOR-Guideline-on-Opinion-Polls-and-Published-Surveys-August-2014.pdf>; compliance with the [ISO 20252:2012](#) market research quality standard and the [ISO 9001:2015](#) standard for quality management systems is also recommended.

<sup>(39)</sup> i.e. respecting the framework of the new General Data Protection Regulation (EU) 2016/679 (GDPR) of the European Parliament, which requires companies to have a Data Protection Officer by Law and transparent data collection, storage and security procedures.

<sup>(40)</sup> As part of the evidence of their Technical and Professional capacity (Section 3.2.2), tenderers are required to provide evidence and information on the composition and expertise of the national contact points proposed for this project.

- formulating questions to capture impact of phenomena over time in a cross-sectional survey design.

In accordance with data protection requirements and the subjects' consent, and in consultation with Cedefop, the contractor should also take all necessary actions, to the extent possible, so as to ensure that a potential follow-up (3<sup>rd</sup>) wave of the European skills and jobs survey (carried outside of the remit of this contract and after an estimated 5-7 year time period) may be merged with the 2<sup>nd</sup> wave, forming a longitudinal (panel) dataset.

### Country coverage

The country coverage of the survey will include **all 28 European Union (EU) Member States**.

Subject to budget availability, the 2<sup>nd</sup> ESJS may also consider coverage of Norway and Iceland. The survey coverage of the UK is dependent on and conditional to the final outcomes of the Brexit negotiations.

### Target population

The target population of the survey is all adults (aged 25-64) who are in wage and salary employment (i.e. paid employees, excluding those in self-employment and family workers) from each EU28 Member State (plus, provisionally, NO, IS).

For the purposes of this survey, EU labour force survey (EU-LFS) definitions and guidelines are applied as much as possible to ensure consistency between the ESJS and the EU-LFS. In the EU-LFS definition, a person is considered as being in employment if he or she did any work for pay or profit during the reference week for at least one hour, while an **employee** as an individual who works for a public or private employer and who in return receives compensation in the form of wages, salaries, fees, gratuities, payment by results or payment in kind. For the ESJS, coherent definitions and inclusion and exclusion rules should apply <sup>(41)</sup>.

### Sampling design

The contractor is expected to provide a sound and clear justification for the proposed sampling design strategy and procedure for data collection.

Several elements contribute to an optimal sampling design:

- the use of good quality sampling frames from which every person within the defined sample population has a known non-zero chance of being selected;
- avoiding non-response and response bias by implementing an appropriate strategy with regard to the number and timing of contact attempts and explicit strategies for persuading target persons to participate in the survey;
- limiting clustering effects and ensuring that clustering effects are comparable across countries.

The contractor should clearly specify and justify (as part of their technical proposal) the proposed sampling design procedure for each country, paying explicit attention to the balance between bias, variance, timeliness and costs. Depending on the proposed sampling strategy, an appropriate sample selection design should be proposed, ensuring sensible geographical stratification (region, degree of urbanisation) <sup>(42)</sup> in case of a random probabilistic design or achieving sample representativeness with respect to age, gender, education, broad sectors of employment and occupation and region of residence in case of a quota survey. Appropriate

<sup>(41)</sup> [https://ec.europa.eu/eurostat/statistics-explained/index.php/EU\\_labour\\_force\\_survey\\_-\\_methodology](https://ec.europa.eu/eurostat/statistics-explained/index.php/EU_labour_force_survey_-_methodology)

<sup>(42)</sup> The NUTS2 or equivalent nomenclature should be used for sampling at regional level; the LFS variable DEGURBA could be used for sampling the degree of urbanity.

measures should be adopted (cross-national or country-specific) to minimise non-response rates and if needed their impact on the final effective target size. Non-response rates should be analysed to assess the representativeness of the sample and these should be reported in a clear and transparent fashion back to Cedefop in all instances.

The contractor is expected to adopt a clearly explained survey implementation strategy that clearly outlines and justifies the required sampling frame, target population and statistical unit, sample size calculation method, sampling, details of stratification, weighting (including design weight, non-response, post stratification and/or raking, trimming) and estimation methods, and strategies to achieve the required net sample size, including those pursued for ensuring high response rates and limiting design or clustering effects. For each country the link between the representativeness of the sample and the Universe has to be clearly understood and documented. The Universe description shall be derived from Eurostat population/labour force survey data or data from national statistical offices. On this basis a national weighting procedure shall be carried out for all countries surveyed.

The steps the contractor intends to take so as to identify in each country the best option for implementing the general sampling strategy should be clearly outlined. The technical offer of the contractor should clearly indicate and include a list of preferred sampling frames for each country to be surveyed with clear justification for their selection (including if and how it intends to enumerate the sample in a given country).

When the use of register is proposed, it must be of high quality and up-to-date (updated within a year preceding fieldwork). The name and ownership of the register, frequency of updates (including date of last update), definition of the statistical unit, coverage (in percent) of the intended target population (include calculation method, details of under-coverage, duplication and ineligibles) and any other relevant information for the assessment of the quality of the register should be clearly indicated.

In case that the contractor wishes to undertake sample selection by means of enumeration in a given country sample (using electronic databases or manual methods), it must clearly justify the proposed approach, highlighting how it will meet scientific quality standards and be carried out in a timely fashion ahead of the start of fieldwork.

Final approval of the adopted sampling strategy will be granted following an in-depth discussion with Cedefop during the kick-off project meeting, based on which the contractor will have to prepare detailed sampling plans finalised in time and prior to the pilot pre-testing phase.

On completion of the fieldwork the contractor will be required to compile a technical report providing detailed documentation on the sampling design strategy and its implementation as a key deliverable.

The tenderers should take into account that the selection and justification of the proposed sampling design and weighting methodology will receive a significant weight in the quality assessment/criterion of their proposal. Cedefop considers that a probabilistic random sampling approach, i.e. all members of the statistical population must have a known non-zero probability of inclusion in the sample, that would be applied in all countries and aim at obtaining unbiased estimates of comparable precision, is of higher quality relative to other sampling design approaches (see point 5.2, award sub-criterion AC2.2).

### Survey mode

The survey is not restricted to a particular survey method and the contractor is expected to adopt the most suitable and justified survey method or method mix, in line with the allocated budget and survey focus. The contractor should indicate whether interviews will be carried out face-to-face with an individual respondent (interviews by proxy are not accepted) in people's homes/place of

work using computer assisted personal interviewing (CAPI) or paper-and-pencil interviewing (PAPI), or if computer assisted web interviewing (CAWI) or computer assisted telephone interviewing (CATI), or a mix of the above, or other approaches, will be used. If more than one approach in combination is proposed, the contractor is expected to explain the implications of relying on multiple survey modes in relation to the need for comparability, compliance with survey design requirements, timeliness and cost effectiveness.

The contractor should consider that utilisation of a particular survey method (e.g. CAWI) may introduce bias in the collected statistics on the use of digital technologies at work, due to sample selectivity. Its technical proposal should thus contain in-depth justification of the selected method or method mix and outline the rational why and how the final survey method proposed would circumvent any sample selection biases and produce representative aggregate statistics for the key variables of interest. The suitability of the proposed survey mode for circumventing specific constraints when attempting to interview a sample of active workers (e.g. difficulty of interviewing them during working hours) should also be justified. The tenderers should take into account that the selection and justification of the adopted survey method will receive a significant weight in the quality assessment/criterion of their proposal (see point 5.2, award sub-criterion AC2.2).

### Sample size

The minimum net number of cases who will have fully completed the survey for each Member State (i.e. the effective/achieved sample size included in the master dataset) should be at least 1 200 individuals for Germany, Spain, France, Italy, Poland and the UK (subject to the outcomes of the Brexit negotiations) (i.e. EU countries with larger labour force sizes) and 1000 individuals for the remaining countries – resulting in an overall minimum total final sample of 29,200 (or 31,200 if the sample includes Norway and Iceland) completed interviews/cases (see Table 3 below). It's up to the tenderer to propose a larger sample size beyond the minimum of 29,200, taking into account that this will be considered an important quality award criterion (see point 5.2, award sub-criterion AC2.4). In any case, the contractor should take adequate measures to ensure that missing values in any of the variables in the dataset are avoided (as a guideline, variables should not have more than 2-3% of their total number of observations as missing values).

**Table 3. Minimum achieved sample size per target country**

Country	Country code	Minimum effective number of interviews
Austria	AT	1000
Belgium	BE	1000
Bulgaria	BG	1000
Cyprus	CY	1000
Czechia	CZ	1000
Germany	DE	1200
Denmark	DK	1000
Estonia	EE	1000
Greece	EL	1000
Spain	ES	1200
Finland	FI	1000
France	FR	1200
Croatia	HR	1000
Hungary	HU	1000
Ireland	IE	1000
Italy	IT	1200
Lithuania	LT	1000
Luxembourg	LU	1000
Latvia	LV	1000
Malta	MT	1000

Netherlands	NL	1000
Poland	PL	1200
Portugal	PT	1000
Romania	RO	1000
Sweden	SE	1000
Slovenia	SI	1000
Slovakia	SK	1000
United Kingdom*	UK	1200
	<b>Total</b>	<b>29,200</b>
<b>(if ordered subject to budget availability)</b>		
Iceland	IS	1000
Norway	NO	1000
	<b>Total</b>	<b>31,200</b>

\* The UK survey is dependent on the outcomes of the Brexit negotiations

### Survey length

It is expected (also based on the experience of the 1<sup>st</sup> ESJS) that the survey length should be a minimum 20 minutes if based on CATI or CAWI (or a combination of the two), but not exceed 30 minutes in total, and a minimum of 45 minutes if CAPI is used. The contractor should take all necessary actions and assist Cedefop, by engaging in appropriate pre-testing of all final national questionnaires, to ensure that the survey duration would not introduce respondent fatigue and dropout or significant differences in survey length between countries or different survey modes.

### Questionnaire development

To implement the survey the contractor will use a draft “master questionnaire (in English)” that will be developed and provided by Cedefop (in cooperation with an external expert working group, organised and financed outside of the remit of the contract). The final version of the questionnaire to be used in the fieldwork will be drafted in close consultation with the contractor and incorporating updates from the extensive cognitive and pilot testing phases (see below).

The contractor will be expected to advise on whether the formulation of questions is suitable in a comparative cross-country context and if the language used is understandable to the statistical population so as to enable the most valid, reliable and comparable measurements. The contractor should confirm that the expected outcomes of the survey can be realised with the specific questions and statistically measurable variables included in the master questionnaire.

Of particular interest for Cedefop is the need to ensure that the collected information on individuals’ education (including education orientation i.e. VET or academic, as for instance implemented in the AES or EU-LFS), occupation and industry is in accordance with current international standards ISCED 2011, ISCO 08 and NACE Rev.2, at a sufficiently detailed level and in line with best practices used for international surveys.

Thus, the contractor should explore and assess the feasibility of possible approaches suitable to collecting information on these items according to these standards. It should propose how it intends to develop and implement a procedure to survey occupations of respondents according to ISCO 08, industry according to NACE Rev.2, educational attainment according to ISCED 2011 and distinguish educational attainment of respondents according to general or vocational orientation (e.g. HATVOC variable in EULFS). Such a procedure could entail the use of a bottom-down approach, using automated filters/information facilities enabling individuals to correctly identify their relevant occupation/industry/educational qualification in own national language, or, alternatively, suggest the employment of a bottom-up approach whereby highly detailed/disaggregated information in the variables of interest is first collected (e.g. detailed job

titles/work descriptions/kind of work/ main activities of employer/specific educational qualifications) and subsequently ‘coded-up’ to broader levels of aggregation according to the standard taxonomies. Cross-checks by more than one independent coder are desirable.

On this basis, in line with the allocated budget and timeline of the project, an appropriate, transparent and feasible approach to guarantee good measurement of the aforementioned sociodemographic characteristics should be adopted, while taking into account best practice based on other EU/international surveys (e.g. European Working Conditions Survey – EWCS; European Social Surveys – ESS; European Adult Education Survey – AES; European Labour Force Survey – EULFS; OECD PIAAC). Tenderers’ proposals (and financial offers) should ensure that they mention all actions/tasks necessary to collect robust information on respondents’ occupation, sector and educational level at different levels of disaggregation (e.g. one-, two- or three-digit levels) and that these will be included as robust variables in the final master dataset. As part of the data quality and methodology report, the contractor will be required to fully describe the coding strategy used and how it was implemented to ensure high quality coding and reliability.

### Cognitive testing

The contractor will ensure high quality cognitive testing of the “master questionnaire”, in close cooperation with Cedefop.

A selection of key questions (selected after agreement between Cedefop and the contractor e.g. what ‘required education’ is needed to carry out a job, why a given technology has a significant impact on job tasks, what is meant by ‘routine’ tasks etc.) shall be subjected to cognitive tests to explore the extent to which survey questions are understood as intended in a cross-national context and also detect problems in comprehension, recall and channelling answers depending on survey options as phrased in the questionnaire. The cognitive tests should be conducted in the native language for **at least six pilot countries** and should consist of a series of cognitive face-to-face interviews, assessing the validity of the selected questions. The pilot countries to be selected should offer a reasonably broad coverage of the different languages of the target countries for the main survey and should preferably consist of languages spoken in more than one country (e.g. English, Spanish, German, Greek, one Slavic language) to minimise translation needs at this stage of the project. Interviews should be carried out with at least 30 respondents in the selected countries (i.e. 180 cognitive interviews as a minimum), who may be selected reflecting different segments of the statistical population (e.g. age, gender, type of work). The plan for the cognitive tests, which shall be provided in the technical proposal, should outline the approach to interviewing and to assessing respondent comprehension. The proposed plan for the cognitive test will be the object of discussion with Cedefop and may be revised.

Clear and systematic documenting and reporting of the main outcomes of the cognitive phase to Cedefop should ensue, including a detailed account of the main areas of miscomprehension and bottleneck items/concepts per country, using a standardised format to rate the validity of each question (for example, not problematic, somewhat problematic and very problematic), and clear suggestions for improvements in the revised master questionnaire <sup>(43)</sup>.

### Translation

All interviews will be conducted in the national language/s and Cedefop attaches much significance to comparability and a good translation of questionnaires. Therefore, the contractor

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<sup>(43)</sup> Audio and/or video of the interviews should be recorded and the audio/video provided to Cedefop. Cedefop experts may attend interviews or look into or listen to interviews remotely which should be facilitated by the contractor upon request and subject to respondent’s consent. Furthermore, Cedefop should have access to recordings of the interviews after they have taken place, subject to respondent’s consent.

will ensure high quality translation of the “master questionnaire” in all relevant languages of the target countries, in close cooperation with Cedefop (and its associated networks of EU experts, who may be asked to provide inputs/scrutinize the translated versions of the national questionnaires). The translation of the source questions for the 2<sup>nd</sup> ESJS into the target languages should ensure comparability by realising optimal levels of consistency and functional equivalence.

The contractor must adopt a rigorous translation and assessment strategy/protocol ensuring the highest quality of national questionnaires. While the use of back-translation is often proposed, the contractor will have to ensure that the back-translation does not only depend on the inputs of professional translators, who may lack expertise and in-depth knowledge on the subject matter of the survey. One possible approach to circumvent inconsistencies in terminology and foster the use of ‘mainstream’ technical terms is to use a so-called ‘team approach’ <sup>(44)</sup>.

This approach foresees that for each language, or language version, two translations by two independent translators with different skill sets will be carried out: one translator could have extensive field-specific expertise or experience in questionnaire development of social surveys; the other could have extensive experience as a professional translator. Both translators should be native speakers of the target language, a key requirement requested as part of the technical and professional capacity criteria of the tender (see section 3.2.2 below). The independent translators would meet to review their translations, discuss their differences, and agree on a final version, in cooperation with the contractors’ core team and Cedefop, who could provide expert guidance on the intention of the questions.

Furthermore the contractor could appoint an adjudicator (either from within the core team or external), who would be a senior expert with a thorough knowledge of survey research and understanding of the subject matter, as well as having excellent command both of English and the target language. The final translation, to be sent to Cedefop for approval, could be agreed in a meeting between the two independent translators and the adjudicator and once it is proof-read.

An additional/alternative approach that may be adopted by the contractor could be to have a translatability assessment prior to translation of the master/source questionnaire, to ensure that it is well-suited for subsequent translation into other languages.

Translatability assessments include:

- reviewing the survey instrument by representatives from each of the major language groupings to identify items which may prove linguistically or culturally difficult to translate;
- resolving linguistically or culturally difficult items by identifying appropriate alternative wordings or equivalent concepts which may be used in other languages;
- revising the original instrument to remove identified difficulties and replace with more broadly relevant alternatives;
- developing a comprehensive concept description/definition which accounts for identified difficulties and provides translators with agreed alternatives.

During the above translation process, the contractor will also have to develop a glossary of the ‘most difficult to translate terms’ across the different languages of the target countries and indicate the most appropriate/suitable national translation adopted for use in each national questionnaire as well as to inform the interviewers’ guidelines.

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<sup>(44)</sup> This Translation-Review-Adjudication-Pre-test-Documentation (TRAPD) approach is increasingly recommended as state-of-the-art in social science survey research and, based on Cedefop’s experience from the 1<sup>st</sup> ESJS, would be considered a higher quality approach during the evaluation of tenderers’ proposals.



The contractor shall propose a strategy for countries where it appears necessary to prepare different versions of the questionnaire in different language (because more than one language is actually spoken). Similarly, the contractor shall allow for harmonisation in translations of countries where different versions of the same language is spoken (e.g. German in Germany and Austria, Greek in Greece and Cyprus) but where a separate translation process is required.

The contractor shall ensure that key terms (including answering categories) that are used repeatedly throughout the questionnaire are translated consistently.

The contractor shall check the final target language questionnaires to ensure that there are no unintended omissions or additions or other editing errors and submit to Cedefop formatted/visually attractive copies of all national questionnaires.

The contractor will be requested to provide, as part of the respective work assignment, an extensive report/account of the steps taken, and associated remedial actions, to ensure the suitability of the final translation protocol to be used.

### Pilot pre-testing

The contractor shall carry out a pilot pre-testing of all national questionnaires as a trial of the method of contacting respondents, routings, interviewers' instructions, technical infrastructure as well as general survey administration. The pre-testing will also serve to assess whether the questionnaires meet the intended research purpose (e.g. questions may be included to gauge if the questionnaire/specific questions were difficult to comprehend/respond and why, if some questions are sensitive and respondents do not feel comfortable addressing them, dissatisfaction with survey length, overall survey satisfaction) as well as collect additional feedback by interviewers on the survey implementation process. The pilot could also be used to assess cross-cultural bias e.g. via incorporation of a vignette approach. In each country, at least 30 structured pre-testing interviews should be carried out, selecting respondents from the sampling frame and according to the sampling procedures presented in the methodology.

To facilitate the pilot, the contractor will have to prepare and distribute relevant versions of the fieldwork materials (translated in each respective language at a sufficiently high quality level, but not necessarily adopting a TRAPD or other methodology) to the country contact points and interviewers in a timely manner. All fieldwork materials shall be provided to Cedefop in English to be signed off prior to translation.

Following the pre-testing stage, the contractor should analyse the pre-testing data collected and provide final suggestions for revising the questionnaires in all languages as well as report on the main challenges and any remedial actions taken.

### Survey implementation/fieldwork

Based on the insights gained from previous pre-testing phases, the contractor should review the survey guidelines and develop a detailed planning and organisation report as well as timetable and quality control measures for all practical implementation stages of the survey.

The contractor will be required to describe processes for validation and testing of the interview scripts.

The contractor should adopt systematic procedures for screening respondents and monitoring fieldwork outcomes precisely and ensuring that the contact sheets contain full and accurate information and that the information is recorded in a timely manner (e.g. digitally recording the information in the system within 24 hours of the contact). The information on the contact procedure is of high importance to establish response rates and potentially assess non-response bias. Therefore, all paradata and contact data must be recorded and provided to Cedefop. The

contractor should ensure that their contact strategy will minimize non-contact (safeguarding the equal probability of inclusion of all selected households/individuals) and ensure that potential respondents are not excluded from the fieldwork due to the method or timing of the contact attempts.

The contractor should ensure that all relevant final versions of fieldwork materials, translated in each respective language (at a sufficiently high quality level, but not necessarily adopting a TRAPD or other methodology), are made available to the national teams and their staff in time to be used for the fieldwork. The content of the fieldwork materials will be discussed, revised and approved by Cedefop.

The contractor must provide information on the size and skills/experience of the field force they intend to use (if any), including outlining the number of interviewers that are expected to be deployed in each country and their relevant experience and language capacity, to ensure the task of completing fieldwork to the required standards in the agreed time frame.

The contractor should ensure appropriate training and updating of country team leaders and of the interviewers (if any) prior to fieldwork, so that they are fully aware of the survey aims and of all potential difficulties that may be encountered during the implementation stage (as also revealed during the cognitive and pre-testing phases), their use of the fieldwork materials, the procedure to be followed for selecting the respondent and how to conduct the interview as well as raising their awareness regarding appropriate use of international classifications for occupations, economic activity and education. The contractor will ensure that interviewers are subject to systematic quality control, and will be required to report back to Cedefop on all actions and monitoring taken in this regard, as well as inform the Cedefop project managers about the interviewer monitoring plan ahead of the fieldwork. To control the quality of interviewer's work random 'back checks' should be carried out (e.g. calling or revisiting respondents to check whether an interview took place, collecting some further information on respondents to check whether the interview has been carried out correctly, screening/listening into some interviews, compiling response or cooperation rates of contacted units per interviewer, random analysis of paradata, etc.).

These quality control checks, whose suggested coverage (e.g. cover at least 10% of completed interviews) shall be indicated in the contractor's technical proposal, should be carried out within one week of the original interview to allow for the continuous monitoring of interviewer performance. Discrepancies observed in the back checking are recorded in a back checking log, in which the severity of the transgression is indicated. Depending on the seriousness of the transgression the interviewer should be corrected, retrained or replaced. Interviews for which serious transgressions are found should be excluded from the final dataset.

In alignment with the proposed interview mode (see above) and minimum technical requirements of the contract, the contractor will eventually organise and carry out the fieldwork in each target country within the agreed timeline<sup>(45)</sup>. Throughout the fieldwork the contractor will be expected to provide regular (weekly) updates of fieldwork progress (number of contacts/non-contacts and refusals, completed interviews, remaining gross sample, key demographics of completed sampling), including evidence that the interviewer monitoring plan is implemented as foreseen, and inform/seek advice from Cedefop in a timely fashion about any unanticipated difficulties occurring and act upon agreed corrective measures.

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<sup>(45)</sup> Tenderers should reflect in their tender proposal on if and how fieldwork could be organised to ensure that respondents from countries with more than one language, can answer to the questionnaire in their preferred language

### Master dataset together with survey guidelines/ documentation

The contractor is expected to provide all necessary supporting background documentation (in English) to facilitate understanding and analysis of the survey by potential users.

In this regard, the contractor should clearly provide a supporting background document containing clearly-described concept definitions, operationalisation and rationale for each variable of the final 2<sup>nd</sup> ESJS survey questionnaire <sup>(46)</sup>.

An accompanying technical data quality report should clearly define the methodology for data collection and sampling design, implementation (including achieved final response rates) and subsequent data processing and validation steps (coding and data validation, including editing and checking rules for all variables and sampled observations), treatment of statistical unit and item non-response/missing values, weighting schemes, quality assurance and control, ethics and data processing etc. The technical report should also seek to validate the soundness of the statistical properties of the evidence collected by the 2<sup>nd</sup> ESJS by comparing it to sample distributions of comparable (key) variables from other mainstream EU/international surveys. The contractor will deliver the SPSS/STATA or Python syntax files used to generate the data quality analysis.

The contractor should provide an accompanying data summary report that includes all relevant cross tabulations and graphs, with short commentary on interpretation of key insights/findings. All figures, charts, graphs and diagrams should be in editable format. If they are visualisations of data, they should be in Excel format and the underlying data for each figure/chart/graph should also be provided. The contractor will deliver the SPSS/STATA/Python syntax files used to generate the results, including tables and graphs as well as standard errors of the parameters estimated.

After checking the internal consistency of the data and other elements of data quality and validation, the contractor should deliver the complete micro dataset to Cedefop in different formats: SPSS, STATA and CSV. The microdata should include all derived variables and value labels in a clearly legible format (in English) with direct and easy reference to the corresponding questions in the national questionnaires. For key variables collected in disaggregated form, the dataset should include additional derived variables aggregating individuals' responses into different digits based on standard international classifications (e.g. ISCO 08 for occupation, NACE Rev.2 for industry, ISCED 2011 for education level), or clustered as short categorical variables <sup>(47)</sup>. The dataset should also include and clearly denote any variables denoting the weights used for mitigating discrepancies between the sample and population, either due to sampling (base weights) and non-response (design weights) as well as to account for post-stratification weighting. The contractor will deliver the SPSS/STATA/Python syntax files used to generate all above variables and associated data quality analysis.

The contractor should provide, together with the delivery of the master dataset, a user-friendly, standard, codebook containing variable names and definitions, corresponding survey numbers and other relevant information (e.g. conditionalities, missing values). Weights should be clearly

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<sup>(46)</sup> e.g. ***Changes in the workplace***  
Concept definition and operationalization: This item allows respondent to indicate if significant changes to any of the following have occurred in their working environment: machinery; information and communication technologies; working methods and practices; outsourcing and relocation practices; products or services; and the amount of contact you have with clients or customers. We also include an item measuring whether any of these changes were supported by training activities paid for by employers.

Concept rationale: Measuring changes in the workplace allows for an examination of how mega trends, such as technological progress, have affected the workplace.

Question(s): *Esjs\_Q20*

<sup>(47)</sup> e.g. coding information on income values/bands into a generic income variable that corresponds to deciles of each country's income distribution; merging information on digital tools/technologies used by individuals at work to correspond to a broader taxonomy etc.

documented. If more than one weight variable will be offered, an explanation of their intended use will be provided.

#### Additional refinements to master dataset

Following compilation of the master dataset, the contractor may be requested to utilise appropriate machine learning methods, for the purposes of classifying/clustering available textual information ('strings') collected as part of the 2<sup>nd</sup> ESJS into groups or clusters characterised by a degree of similarity, in particular rich data collected on (new) technologies used at work as well as emerging workplace skills requirements <sup>(48)</sup>. The contractor will have to reflect and justify the use of the most suitable machine learning algorithms/technique (e.g. Decision tree, naïve Bayes, SVM, KNN, k-means etc.) that may be used to carry out the task and provide a clear description of the suggested methodology in the technical proposal, along with provision of evidence of relevant assessment quality criteria (indicators of precision, accuracy, recall, silhouette values, areas under ROC curve etc.).

The contractor should ensure that an appropriate level of expertise in machine learning methodologies is available in the core team (to be included in the tenderers' proposal; see technical and professional capacity requirements in section 3.2.2).

An additional piece of information that may be collected as part of the 2<sup>nd</sup> ESJS survey is the name of the respondents' employer, conditional on agreement by the respondents who will be asked to provide such information as part of the main survey.

To effectively utilise such information, Cedefop may explore the feasibility of linking such information to available European or international registers of employers <sup>(49)</sup>. Therefore, the contractor will have to first assess, together with Cedefop, the potential value of engaging in such an exercise, such as reviewing the number of valid cases (for which employer information has been provided in the main survey) and potential biases that may hinder the generalisability of any subsequent analysis that relies on such data, as well as any potential costs (e.g. raising non-response rates), biases and ethical implications it may have (to be tested during the pilot pre-testing phase). In cooperation with Cedefop, the contractor will also have to engage in all necessary efforts to explore the feasibility of such linking and identify potential constraints (e.g. high costs requested by available registers, data protection issues, non-informative data available in employers' registers in relation to enriching the main goals of the ESJS).

Under the provision that merging the 2<sup>nd</sup> ESJS microdata with information from available European/international employer registers is technically feasible (either for all or a subgroup of EU countries), and ensuring that all data confidentiality clauses are duly respected, the contractor will have to facilitate the process of such merging on the basis of linked anonymous company identifiers. The contractor will be hence expected to deliver to Cedefop a supplementary matched employee-employer master dataset that contains all information collected as part of the 'core' fieldwork at individual level, in addition to information on their employers (for all or a subgroup of technically feasible EU countries) that will be available in the external matched business registries.

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<sup>(48)</sup> Key information to be collected as part of the main ESJS survey will be the use of (recently introduced or new) technologies by EU adult workers. In addition to the inclusion of specific survey items based on a pre-defined taxonomy of main technologies used at work, an open-ended question will be potentially included in the 2<sup>nd</sup> ESJS questionnaire allowing respondents to describe the type of (ICT and non-ICT) tools mostly used to carry out their work/in their workplace. Similarly, respondents may be asked to describe in detail the type of work or skills required by their job, which may be mapped into pre-defined categories and taxonomies but could also provide insights into alternative data classifications.

<sup>(49)</sup> For instance, the Bureau van Dijk's Orbis and Amadeus company databases.

### 2.3.3 Project timeline and required outputs

The following reports and deliverables are required for the purposes of the contract in accordance with the **indicative** project timeline. In particular, the contractor should deliver the following reports/outputs within agreed time deadlines. Cedefop will provide comments/inputs to all of the reports mentioned below and the contractor should address those comments, liaising closely with Cedefop's project managers.

**Table 4. Indicative project timeline and deliverables**

Work assignment	Tasks	Estimated duration in months (t = date OF1 signed)	Deliverables	Meetings with Cedefop
<b>WA 1</b>	Contribute to finalising the master questionnaire	t+1	1) Inception report	Kick-off meeting
		t+3	2) Background (1 <sup>st</sup> interim) report - Survey implementation guidelines - Draft master questionnaire - Survey items descriptive note	
<b>WA2</b>	Sampling design/strategy	t+4	3) Sampling strategy report	
<b>WA3</b>	Cognitive testing	t+5	4) Technical report on the cognitive test interviews 5) Revised master questionnaire	
<b>WA4</b>	Translation of survey instrument	t+10	6) National questionnaires 7) Translation quality report	
<b>WA5</b>	Pre-testing of survey instrument and revision to national questionnaires	t+12	8) Pre-testing/pilot report 9) Pilot (micro)dataset 10) Revised national questionnaires	Interim meeting
<b>WA6</b>	Survey implementation/fieldwork	t+13 → t+18	11) Organisation and planning report (2 <sup>nd</sup> interim report), including reviewed survey implementation guidelines 12) Regular fieldwork (weekly) reports	
<b>WA7</b>	Preparation and delivery of master dataset and supporting background documentation	t+21	13) Draft main methodological and data quality report 14) Draft main descriptive data analysis report 15) Draft master dataset in CSV and SPSS/STATA formats 16) Draft survey codebook 17) Draft syntax files	Final meeting
	(Cedefop final editing stage)	t+24	18) Final revised versions of deliverables (12)-(16) 19) Final formatted versions of national questionnaires	

**Table 5. Project deliverables and required content during the performance of the Framework Contract**

<b>Deliverable</b>	<b>Content</b>	<b>Internal (I) or public (P)</b>
<b>1) Short Inception Report</b>	An Inception Report fine-tuning the methodology, inputs and expected outputs and outcomes for the different steps of the overall study, process and timetable of the research and services provided, is due 1 month after the date on which the order form is signed by the last contracting party.	I
<b>2) Background (1<sup>st</sup> Interim) report</b>	A first background (interim) report is due 3 months after the date on which the order form is signed by the last contracting party. The report should be comprised of the following elements: <ul style="list-style-type: none"> <li>- <b>Survey implementation guidelines</b>, with description of survey implementation specifics e.g. suggested steps and actions for running the survey and technical requirements (to be followed by national contact teams and the central coordination team) as well as guidelines for interviewers/coders</li> <li>- <b>Draft master questionnaire</b>, with suggested improvements for ensuring coherence with international survey experience</li> <li>- <b>Survey items descriptive note</b>, including a list of definitions and operationalisation/rationale for all survey items to be used in the questionnaire</li> </ul>	I
<b>3) Sampling design/strategy report</b>	A <b>technical sampling design/strategy report</b> is due 4 months after the date on which the order form is signed by the last contracting party. The report should provide an in-depth overview of the sampling design, sampling plans and weighting scheme(s) adopted after discussion and agreement with Cedefop, planned and achieved sample size for all countries covered by the survey and reporting on the statistical and non-statistical precision of the estimates in total survey error perspective (confidence interval, standard errors or design effects).	I
<b>4) Cognitive interviews technical report</b>	An interim <b>cognitive interviews technical report</b> is due 5 months after the date on which the order form is signed by the last contracting party. The document should report on the key outcomes/lessons of the cognitive interviews as well as the proposed adaptation of the master questionnaire. An accompanying spreadsheet/database of all collected inputs per question should be provided. As part of the report a <b>revised draft master questionnaire</b> , with suggested improvements in alignment with the key outcomes of cognitive phase, should be submitted to Cedefop.	I
<b>5) Translated national questionnaires and translation quality report</b>	All <b>national questionnaires</b> needed to carry out the survey in all target countries are due ten months after the date on which the order form is signed by the last contracting party. A <b>translation quality report</b> is submitted together with the national versions of the master questionnaire, clearly describing the translation methodology adopted and associated steps, how challenging items/inconsistencies in translation were effectively tackled (with particular emphasis on how key variables, such as highest education level, were accommodated to take into account national specificities) and the strategy adopted to accommodate countries with more than one official language. As part of the translation quality report the contractor will also submit a <b>glossary of the “most difficult to translate terms”</b> across the different EU languages with clear indication of the most appropriate/suitable national translation finally adopted for use in each country questionnaire.	P
<b>6) Pre-testing/pilot report</b>	An interim <b>pilot technical report</b> is due 12 months after the date on which the order form is signed by the last contracting party. The document should report on the key outcomes/lessons of the pre-testing/pilot phase as well as the proposed adaptation of the master and national questionnaires. As part of the report <b>revised, final and immutable, national questionnaires and revised survey implementation</b>	I

	<b>guidelines</b> , with suggested improvements in alignment with the key outcomes of the pilot phase, should be submitted to Cedefop. In addition, the contractor should submit the <b>pilot (micro)dataset</b> with information collected from all pre-tested subjects (in CSV or SPSS/STATA format), for further investigation and analysis by Cedefop.	
<b>7) Organisation and planning (2<sup>nd</sup> interim) report</b>	An <b>organisation and planning (2<sup>nd</sup> interim report) report</b> is due 13 months after the date on which the order form is signed by the last contracting party and at least 1 month before the beginning of the fieldwork. The report should detail the organisation and planning of the survey in the target countries, the survey methodology, the workplan and the timetable for survey implementation before the fieldwork starts.	I
<b>8) Main data quality &amp; methodological report</b>	A <b>draft data quality and methodological report</b> is delivered 21 months after the date on which the order form is signed by the last contracting party and its final version, which effectively takes into account Cedefop's inputs, is due after 24 months. The report details all technical aspects and stages of survey implementation (as discussed in detail in Box 1 below) focussing on main methodological choices, presentation of methodology (sampling, weighting, coding, translation process, quality assurance and control), technical solutions, data quality and assurance analyses and conclusions/recommendations for the use of the dataset for the purposes of further research/analysis. The report should include all relevant bibliography and annexes (including additional tables/figures, questionnaires, etc.) <sup>(50)</sup> .	P
<b>9) Main (summary) data analysis report</b>	A draft <b>(summary) data analysis report</b> is delivered 21 months after the date on which the order form is signed by the last contracting party and its final version, which effectively takes into account Cedefop's inputs, is due after 24 months. The report contains analysis of the basic descriptive information and summary statistics (e.g. frequencies, means, standard deviation, minimum/maximum and missing values, correlations between key variables, breakdown by key explanatory factors) of the variables in the dataset and provides short commentary on the main findings/messages of the analysis <sup>(51)</sup> . The report should include an executive summary with key results and conclusions (approx. 10 pages) and all relevant bibliography and annexes.	P
<b>10) Master dataset and supporting documentation</b>	<b>A draft master dataset</b> is due 21 months after the date on which the order form is signed by the last contracting party and its final version, which effectively takes into account Cedefop's inputs, is due after 24 months. The dataset is in STATA and SPSS data formats and in comma-separated-delimited (CSV) format. The data files must contain at least the minimum number of individual cases for each target country as specified in section 2.3.2 above, or the final number of cases as proposed by the tenderers in their proposal (see award criterion 2.4 section 5.2). The data files must contain all raw data gathered for all target countries and weighting information. Variable labels and, where appropriate, value labels should be provided, including all syntax files used for data processing and weighting. <b>Together with the master dataset, a survey codebook</b> (preferably in Excel format) and all <b>syntax files</b> (in SPSS and STATA log files or python files) used for data quality analysis and derivation of derived variables are delivered in draft form 21 months after the date on which the order form is signed by the last contracting party, and final versions submitted after 24 months.	P

<sup>(50)</sup> Tenderers could consult the methodological survey reports of other mains EU/international surveys e.g. Eurostat CVTS 4 or AES 2011, OECD PIAAC, Eurofound's EWCS

<sup>(51)</sup> The contractor may use as inspiration for the summary data analysis report the format of the European Commission's Eurobarometer reports <http://ec.europa.eu/commfrontoffice/publicopinion/>

### Box 1. Required elements to be covered by main data quality and methodological report

Based on established standards, the data quality and methodological report should contain information that properly documents the following:

#### Stages of survey process:

- Planning & Design
- Sampling (general and by country) & Weighting (design weights, adjustments if any, and of what kind, trimming)
- Questionnaire development, translation and mode of administration
- Fieldwork execution, management, supervision and quality assurance/controls (including pre-field work and post-field work)
- Micro-dataset derivation and specifications (including data cleaning, corrections, imputations, etc.)
- Analysis & dissemination

#### Aspects of data quality:

- Relevance.
- Accuracy (TSE)
- Sampling errors (selected or systematic measures of statistical accuracy, such as length of confidence intervals, standard errors, effect design, regression models for users calculation, etc)
- Non sampling errors
- Coverage errors (registers information)
- Nonresponse error (including items and unit non responses errors or rates)
- Measurement errors of different nature
- Comparability.
- Coherence.
- Timeliness and punctuality.
- Accessibility and clarity

The methodological report should pay attention to the actions and procedures undertaken as part of the data quality assurance strategy, quality controls and corrective measures adopted, if any, particularly with regards to the fieldwork (including pre-field and post field work).

It is expected that the general cross-national methodological report will be based on country specific reports, or that it should provide country based and/or country specific information concerning:

- The registers and the nature/quality of the registers used as sampling frames
- Sample sizes
- Unit (non) response rates and cooperation rates
- Items non response rates (at least the highest ones)
- The national questionnaire used in a specific country
- Information on questions and variables which deviated from general concepts, definitions, recommended measurement approach
- Information on questions and variables which created particular problems at implementation level (field work stage)
- Any other known information on instances possibly undermining accuracy, comparability, coherence of the data

### 2.3.4 Cedefop Style Manual and Framework Contract

The contractor shall submit all reports/deliverables in English (national questionnaires are an exception), in electronic format, following proof reading and copy editing. Figures and tables should be delivered separately in Excel or in Word, as appropriate. Excel charts should include the data used to be able to reproduce the charts. The electronic files must correspond fully to the hard-copy version. Lay-out and format of the text –in particular for citation, bibliography, tables and figures – have to comply with Cedefop's style manual (Annex K).

Tenderers are requested to read carefully the following articles of the draft contract (in Annex B of the procurement documents):

Article I.10 – Exploitation of the Results of the Contract



## Article II.13 – Intellectual Property Rights

Article I.15.1 – Other Special Conditions, which complements the provisions of Article II.13 as regards the use of results of the research by the contractor

Article I.15.2 – Anti-plagiarism checks

## 2.4 Task assignment procedure

Cedefop and the contractor will communicate in English. All tasks will be performed on a “fixed price request” basis, i.e. effort estimation (quote) and its approval by Cedefop will precede the issuing of order forms and execution of the services.

The following task assignment procedure will apply, before the signature of each order form:

1. a request for quotation is sent by Cedefop to the contractor, including the task description and the related technical specifications;
2. if necessary, clarifications may be requested by the contractor through phone/virtual conferences or emails. Cedefop will provide clarifications accordingly;
3. within 10 working days, the contractor shall provide an estimate of the work-days the task will require, as well as the delivery date; quotes should take into account project management, documentation, follow-up and quality control of the deliverables and be in accordance with the contractor's original financial proposal;
4. if necessary, Cedefop will discuss the offer with the contractor (see step 3 above) until an agreement for the undertaking of the task or part of the task is reached;
5. an order form will be prepared and sent to the contractor by Cedefop's Procurement Service for signature;
6. upon signature by both parties, the order form enters into force and the contractor starts executing the task in view of providing the specified deliverable(s) within the agreed timetable.

The frequency and format of project updates will be agreed at the kick-off meeting.

### Personnel requirements:

In case the contractor needs to replace any member of the team (or add a new member) throughout the duration of the contract, an e-mail with the CV(s) of the new member(s) (that must be compliant with the selection criteria in point 3.2.2) must be submitted to Cedefop for review and prior approval by Cedefop.

## 2.5 Meetings and travel expenses

Indicatively, the contractor (up to 3 persons) will be requested to attend **three scheduled one-day meetings at Cedefop premises (in Thessaloniki)**:

- at the start of the work (inception meeting) - following signature of the first Order Form and the delivery of the inception report to fine-tune the final planning of the activities and services;
- upon submission of organisation and planning report – to monitor progress and discuss the cognitive/pre-test findings, agree on finalisation of national questionnaire and discuss main issues as part of the organisation and planning report;

- upon delivery of dataset and data collection and quality report – to discuss findings and key outcomes and messages of the survey and required revisions to draft final dataset/reports.

The final number of meetings will be specified in the respective order forms. Meetings can also take place via video-conference or Skype or, exceptionally, outside of Cedefop premises (following agreement between Cedefop and the contractor).

All costs incurred, including travel & accommodation related to Cedefop's meetings described above (excluding additional meetings) have to be included in the Financial offer (item 6 in Table 7 in Annex H). Tele- or video-conferences with Cedefop project managers may be foreseen during the period of the contract if deemed necessary and in agreement with the contractor.

### 3 SPECIFIC INFORMATION CONCERNING PARTICIPATION TO THIS TENDER PROCEDURE

Participation to this tender procedure is only open to tenderers who are in a position to subscribe in full to the “**Declaration on honour on exclusion criteria and selection criteria**”, given in Annex C. All tenderers, all group (consortium) members (if any) and any subcontractor/s (identified as per the two bullet-points in the fourth paragraph of point 4.2 below) **MUST** provide the declaration on honour found in Annex C duly signed and dated (for more information please refer to *Annex 1* of the Invitation to tender).

#### 3.1 Exclusion Criteria

The purpose of the exclusion criteria is to determine whether an economic operator / tenderer is allowed to participate in the procurement procedure or to be awarded the contract.

The exclusion criteria will be assessed in relation to each company individually. In the event of recommendation for contract award, evidence will be requested as described in Annex C (point VI).

#### 3.2 Selection criteria

The selection criteria concern the tenderer's capacity to execute similar contracts.

The tenderers must submit documentary evidence (or statements, where required) of their economic, financial, technical and professional capacity to perform this contract.

Each and all requirements for economic and financial capacity should be fulfilled by the tenderer - alone (in the case of single tenderers) or as a whole (in case the tenderer is a grouping/consortium). Participation in tendering is open to all legal persons bidding either individually or in a grouping (consortium) of tenderers.

An economic operator may, where appropriate and for a particular contract, rely on the capacities of other entities, regardless of the legal nature of the links which he has with them. He must in that case prove to the contracting authority that he will have at his disposal the resources necessary for performance of the contract, for example by producing an undertaking on the part of those entities to place their resources at his disposal. This obligation must be fulfilled by presenting signed statements from those entities (Annex J). Please note that natural persons (individuals, freelancers) are also considered ‘entities’ for this purpose.

##### 3.2.1 Economic and Financial capacity

The tenderer must be in a stable financial position and have the economic and financial capacity to perform the contract.

**Requirement:**

- The average annual turnover of the tenderer for the last **three** (3) financial years concerning the type of services covered in this call for tenders should be at least **750,000 €**.

Proof of economic and financial capacity **must** be furnished by the following document:

- Signed Statement (Please fill-in and sign your Statement in Questionnaire 2 of Annex G) of the tenderer's turnover for the last **three** financial years concerning the type of services similar in nature to those making the subject of this call for tenders.

In case of a consortium (grouping) or subcontracting each member of the consortium and all sub-contractors (in line with points 4.1 or 4.2 below) must provide the required statement for the economic and financial capacity, **but the assessment of whether the minimum requirement is met will bear on the consortium as a whole or the tenderer together with his subcontractors.**

In the event of recommendation for contract award the winning tenderer (single tenderer or in the case of a consortium (grouping) each member of the consortium) will be requested to prove the above by submitting Audited Financial Statements (Audited Profit and Loss Account/ Statement or equivalent) if these are foreseen by the respective national legislation. Should total subcontracting exceed 40% of the work by value, Cedefop reserves the right to request audited financial statements also from the subcontractors. *For tenderers or sub-contractors (identified as per any of the two bullet-points in paragraph 4 of Art. 4.2 below) who are natural persons / freelancers, a tax declaration and tax clearance statement for the last **three** financial years will be requested.*

If, for some exceptional reason the winning tenderer (or any consortium member or sub-contractor) is unable to provide one or other of the above documents, they will be required to justify the non-provision and may prove their economic and financial capacity by any other document which Cedefop considers appropriate. Cedefop reserves the right to request any other document enabling it to verify the tenderer's economic and financial capacity.

### 3.2.2 Technical and professional capacity

The Tenderers must demonstrate qualifications, knowledge, skills and the ability to perform the tasks outlined in the terms of reference. In particular, the tenderer must comply with the following requirements:

#### **Requirements for technical and professional capacity:**

- the Tenderer must have provided services by the deadline for submission of offers within the past **5 (five)** years in execution of at least **2** contracts in cross national comparative social surveys, of a total/combined value of min. **1,000,000 €**;
- the Tenderer must have the capacity to coordinate a network of national contact points having experience with carrying out large national or cross-national social surveys; each national contact partner must have carried out at least 2 social surveys (national or international) within the last 5 years with a minimum value of €30,000 in total;
- the Tenderer's experts, whose involvement will be instrumental for the successful implementation of the contract, must have profiles, knowledge and experience relevant to the subject of the contract:

#### *Project leader (1 CV)*

- **University graduate** in the field of statistics, other formal sciences (e.g. mathematics, computer or systems science) or social sciences

- At least **5 years** of experience in management of projects at EU level in the field of empirical survey research and data collection (development, design and implementation of cross-national surveys in a social science context)
- Linguistic capacity to understand, speak and write fluently to a high standard in English at C1 level at least (as determined in “Language levels of the Common European Framework of Reference (CEF)”).

*Senior expert on labour market and skills analysis, with emphasis on digitalisation (1 CV)*

- **University graduate** in social sciences (preferably at postgraduate level)
- At least **five (5) years** individual research experience in carrying out empirical survey research and data and statistical analysis, focused on technological change and digitalisation and/or skills/skills mismatch analysis, at national and/or European level
- At least three academic studies focused on examination of the impact and consequences of technological change/digitalisation, or the determinants and consequences of learning, training and/or skill mismatch, published at peer-reviewed academic journals
- Linguistic capacity to understand, speak and write fluently to a high standard in English at C2 level at least (as determined in “Language levels of the Common European Framework of Reference (CEF)”).

*Senior expert (at least 1 CV)*

- **University graduate** in the field of statistics, other formal sciences (e.g. mathematics, computer or systems science) or social sciences
- At least **three (3) years** individual experience in the field of empirical survey research at EU/cross-national level, with focus on **methodological aspects of sampling design** (including weighting, sample accuracy etc.)
- Linguistic capacity to understand, speak and write fluently to a high standard in English at C1 level at least (as determined in “Language levels of the Common European Framework of Reference (CEF)”).

*Senior expert (at least 1 CV)*

- **University graduate** in the field of statistics, other formal sciences (e.g. mathematics, computer or systems science) or social sciences
- At least **three (3) years** individual experience in the field of empirical survey research at EU/cross-national level, with focus on **questionnaire development and testing**
- Linguistic capacity to understand, speak and write fluently to a high standard in English at C1 level at least (as determined in “Language levels of the Common European Framework of Reference (CEF)”).

*Senior expert (at least 1 CVs)*

- **University graduate** in the field of statistics, other formal sciences (e.g. mathematics, computer or systems science) or social sciences
- At least **three (3) years** individual experience in the field of empirical survey research at EU/cross-national level, with focus on **coordinating and ensuring quality of the translations process of (social) surveys**
- Linguistic capacity to understand, speak and write fluently to a high standard in English at C1 level at least (as determined in “Language levels of the Common European Framework of Reference (CEF)”).

*Junior expert (at least 1 CV)*

- **University graduate** preferably in the field of statistics, other formal sciences (e.g. mathematics, computer or systems science) or social sciences
- At least **two (2) years** of experience in the field of empirical survey research (in particular survey implementation and pre-processing e.g. checking, correcting, cleaning data, reporting on field work progress etc.) and/or statistical analysis (with focus on labour market and skills analysis).

- Linguistic capacity to understand, speak and write fluently to a high standard in English (at B2 level at least, as determined in “Language levels of the Common European Framework of Reference (CEF)”).

#### *Copy editor (1 CV)*

- **Minimum three (3) years** of individual professional experience in gathering information and writing/editing reports for various target groups, specifically policy makers;
- Linguistic ability to communicate and draft to a **high standard in English** at level C2 at least (as determined in “Language levels of the Common European Framework of Reference (CEF)”).

#### *Graphic designer (1 CV)*

- **Minimum two (2) years** of individual professional experience in formatting and layout of research/policy reports, design and visualization of socioeconomic phenomena and policy processes for effective communication to non-technical audiences (e.g. infographics).
- Linguistic ability to communicate and draft to a **high standard in English** at level B2 at least (as determined in “Language levels of the Common European Framework of Reference (CEF)”).

#### *Translators*

- **Brief description of profile of professional translators** to be used throughout the period of the contract for the purpose of developing national questionnaires, with short summary of their ability to provide translation services at will (academic qualifications, professional certification(s), prior experience on tasks similar to the nature and scope of the study) and with coverage of all EU languages.
- At least **two (2) years** of individual professional experience in carrying out relevant translation services at EU or national level, similar in nature to the current study (i.e. translation of EU/international/national social science surveys).

#### *National contact points*

- **Brief description** of the composition and task division of each national team, identifying the person designated as the Fieldwork Manager;
- Minimum of **three (3) years of experience** of the Fieldwork Manager in each national contact point in the field of empirical survey research and data collection;
- Linguistic capacity of the Fieldwork Manager in each national contact point to understand, speak and write fluently to a **high standard in English** at B2 level at least and C2 in the language(s) of the country (as determined in “Language levels of the Common European Framework of Reference (CEF)”).
- Interviewers should consist of **native speakers** of the language in which they are carrying out the interviews

#### *Machine learning specialists/data scientist (1 CV)*

- **Minimum three (3) years** of individual professional experience in carrying out research and analysis utilising machine learning data analytics, preferably with focus on investigating issues of socioeconomic/social science nature.

### **Proofs/evidences of technical and professional capacity**

The following documents or information must be presented by the tenderer to prove his technical and professional capacity to perform the proposed contract:

- Brief company profile to prove the ability (e.g. facilities, technical equipment, availability or access to sampling registers, network of national contact points), technical know-how, experience and expertise needed for the provision of the required services under this call for tenders (**please fill-in Questionnaire 4 of Annex G**);

- List of contracts describing the contracting authorities, the subjects, the amounts, the dates, the percentage and the specific tasks/ description of the projects performed by the tenderer (**please fill-in Questionnaire 3 of Annex G**);
- Evidence about the network of national contact points to be used for carrying out the 2<sup>nd</sup> ESJS in each country, such as description of the projects, including dates, contact names and details.
- Detailed CVs of the experts whose involvement will be crucial for performing the contract, Tenderers are requested to clearly indicate which work experiences are relevant for the fulfilment of the specific aforementioned requirements (specifying dates, employer, main activities and responsibilities), and clearly present linguistic abilities (**please fill-in Questionnaire 5 of Annex G**).

In case of consortium or subcontracting, the consortium or the tenderer with all subcontractors together have to provide evidence of technical and professional capacity as a whole (please see also 4.1 and/or 4.2 below).

### 3.3 Legal Position

Tenderers may choose between submitting a joint offer (see 4.1) as a Consortium / Grouping or introducing a bid as a single tenderer, in both cases with the possibility of having one or several subcontractors (see 4.2). Whichever type of bid is chosen, the tender must stipulate the legal status and role of each legal entity in the tender proposed (see also 5<sup>th</sup> bullet of point 4.1. below). To identify himself (and any other participating entities, if applicable), the tenderer must complete **Questionnaire 1 in Annex G**. In the same Questionnaire each tenderer (and each member of the group in case of joint tender) must declare whether it is a Small or Medium Size Enterprise in accordance with Commission Recommendation 2003/361/EC which can be found in the following link: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:124:0036:0041:en:PDF>.

Tenderers (including all members of the group in case of joint tender) are also requested to provide a **Legal Entity Form** found in **Annex D**, accompanied by all supporting documents and information as indicated in the form.

The Legal Entity Form should be completed and signed by the representative(s) of the tenderer authorised to sign contracts with third parties.

The Legal Entity Form should not be submitted by sub-contractors (if any).

The tenderer (or the leader in case of joint tender) must also provide a **Financial Identification Form** (available in **Annex E**) with its supporting documents. Only one form per tender should be submitted. No form is needed for subcontractors and other members of the group in case of joint tender.

## 4 ADDITIONAL INFORMATION CONCERNING PARTICIPATION TO THIS TENDER PROCEDURE

Participation in Cedefop tendering procedures is open on equal terms to all natural and legal persons or groupings of such persons (consortia) falling within the scope of the Treaties. It includes all economic operators registered in the EU and all EU citizens. Pursuant to Article 176 of the Financial Regulation the participation is also open to all natural and legal persons from non-EU countries that have a ratified agreement with the European Union in the field of public procurement on the conditions laid down in that agreement. Cedefop can therefore accept offers from and sign contracts with tenderers from 37 countries, namely: the 28 EU Member States, 3

EEA Countries (Liechtenstein, Norway, Iceland) and 6 SAA Countries (North Macedonia, Albania, Serbia, Montenegro, Bosnia & Herzegovina and Kosovo).

**⚠ For British candidates or tenderers:**

Please be aware that after the UK's withdrawal from the EU, the rules of access to EU procurement procedures of economic operators established in third countries will apply to candidates or tenderers from the UK depending on the outcome of the negotiations.

In case such access is not provided by legal provisions in force candidates or tenderers from the UK could be rejected from the procurement procedure.

The procurement (tender) procedures of Cedefop are **not** open to tenderers from GPA<sup>52</sup> countries.

The rules of access to the market **do not apply** to subcontractors.

#### 4.1 Joint Offers/ Groupings (Consortia)

A joint tender is a situation where a tender is submitted by a group of economic operators (consortium). Joint tenders may include subcontractors in addition to the joint tenderers.

- Groupings (consortia), irrespective of their legal form, may submit a tender on condition that it complies with the rules of competition. A consortium may be a legally-established permanent grouping, or informally constituted group of tenderers submitting an offer (joint offer) for a specific tender procedure.
- Cedefop does not require consortia (if any) to have a given legal form in order to submit a tender, but reserves the right to require a consortium to adopt a given legal form before the contract is signed (if this change is necessary for proper performance of the contract). This can take the form of an entity with or without legal personality but offering sufficient protection of the contractual interests of Cedefop.
- If awarded the contract, the tenderers of the group (consortium) will have an equal standing towards Cedefop in executing it.
- A grouping (if any) of firms must nominate one party to be responsible for the receipt and processing of payments for members of the grouping, for managing the service administration, and for coordination.
- Tenders submitted by consortia of firms must specify the role, qualifications and experience of each member or of the group (please fill-in the respective Questionnaires in Annex G).
- Each member of the group (consortium) must provide the required evidence for the exclusion and selection criteria. Concerning the selection criteria, the evidence provided by each member of the group (consortium) will be checked to ensure that the consortium as a whole fulfils the criteria.
- The offer has to be signed by all members of the group (consortium). However, if the members of the group so desire they may grant an authorisation to one of the members of the grouping (consortium). In this case they should attach to the offer a power of attorney (see model in Annex I) authorising this company or person to submit a tender on behalf of

<sup>52</sup> [https://www.wto.org/english/tratop\\_e/gproc\\_e/memobs\\_e.htm](https://www.wto.org/english/tratop_e/gproc_e/memobs_e.htm) .



the grouping (consortium). For groupings not having formed a common legal entity, Annex I, model 1 should be used and separate legal entity forms (see point 3.3 and Annex D) should be completed and signed by all members. For groupings with a legal entity in place, Annex I, model 2 and one legal entity form (see point 3.3 and Annex D) should be completed and signed only by the single representative of the consortium.

The contract will have to be signed by all members of the group (consortium). If the members of the group (consortium) so desire, they may grant authorisation to one of the members of the grouping by signing a power of attorney. The same model as above duly signed and returned together with the offer (Annex I) is valid also for signature of the contract.

Partners in a joint offer assume joint and several liability towards Cedefop for the performance of the contract as a whole.

## 4.2 Subcontracting/Subcontractors

Subcontracting is defined as the situation where a contract has been or is to be established between Cedefop and a contractor and where the contractor, in order to carry out that contract, enters into legal commitments with other entities for performing part of the service. If awarded, the contract will be signed by the selected Tenderer (the Contractor), who will be vis-à-vis Cedefop the only contracting party responsible for the performance of this contract. Cedefop has no direct legal commitment with the subcontractor(s).

The contractor retains full liability towards Cedefop for performance of the contract as a whole. Cedefop will treat all contractual matters (e.g. payments) with the contractor, whether or not some tasks are performed by a subcontractor. Under no circumstances can the contractor avoid liability towards Cedefop on the grounds that the subcontractor is at fault.

Any subcontracting/subcontractor must be approved by Cedefop, either by accepting the bidder's tender, or, if proposed by the Contractor after contract signature, in writing by an exchange of letters. In the latter case subcontracting/subcontractor will be accepted only if it is judged necessary and does not lead to distortion of competition.

Tenderers are free to choose their subcontractors from both eligible and non-eligible countries. Thus, in principle all economic operators can act as subcontractors of eligible tenderers.

The tenderer must clearly indicate the identity of each Subcontractor and the percentage of work by value that he will perform for this contract (please fill in Annex G).

### Only in cases when:

- a Subcontractor undertakes between 10,01% and 40% of the work by value,
- OR
- the total subcontracting is above 40% of the work by value, independently of the individual Subcontractor's contribution to the work by value,

the tenderer should submit with the offer:

1. the "*Declaration on honour on exclusion criteria and selection criteria*" (Annex C) filled-in and signed by the respective Subcontractor;
2. the *documents related to the economic/financial and technical/professional capacity of the Subcontractor* as described in points 3.2.1 and 3.2.2 necessary for evaluating of the combined capacity (as a whole) of the tenderer together with his subcontractor(s);
3. the *Form in Annex J (Model of Letter of Intent for Subcontractor/s)* duly filled-in and signed by each respective Subcontractor, stating his unambiguous undertaking to collaborate with the tenderer if the latter wins the contract. Also should be stated the roles, activities and



responsibilities of the subcontractor(s) and the extent of the resources that the respective subcontractor will put at the tenderer's /contractor's disposal for the performance of the contract.

N.B. The subcontractor(s) (if any) have to provide the documents to prove their capacity only for the parts of the contract that are relevant to them. The evidence provided will be checked to ensure that the tenderer alone or with the subcontractor(s) altogether fulfil the criteria.

## 5 AWARD OF THE CONTRACT

The evaluation of the exclusion, selection and award phase will be done in **NO** particular order. If the tenderer or the tender does not pass a phase, it will not be evaluated under the other remaining phases.

**The contract shall be awarded to the tenderer submitting the best price-quality ratio method as represented by the highest Total Score (TS) out of 100.**

The Total Score (TS), comprising quality + price score, will be calculated for each tender by applying the formula below:

$$\text{Total Score (TS)} = X \cdot (\text{TQV}/100) + Y \cdot (\text{Cheapest TFO} / \text{TFO})$$

Whereby:

**TQV = Total Quality Value** of the tender (as per points 5.1 and 5.2);

**TFO = Total Financial Offer** of the tender (as per points 5.3 and 5.4);

**X** is the weighting for quality score (TQV) and for this tender procedure it is fixed to **(70)**;

**Y** is the weighting for price (TFO) and for this tender procedure it is fixed to **(30)**.

Cheapest TFO is the Cheapest Tender Price of a technically compliant tender.

Technically compliant tender is a tender that fulfils both conditions below:

- Achieves a minimum of 50% of the possible score for each of the three award (evaluation) criterion; and
- Achieves a minimum of **70** out of 100 points (TQV) in the technical evaluation – see 5.1 below).

### 5.1 Technical evaluation

The assessment of the technical quality will be based on the ability of the tenderer to meet the purpose of the contract as described in the tender specifications.

The following three Award Criteria for the technical evaluation will be applied to this tender procedure.

**Table 6. Award criteria – evaluation grid**

	Maximum number of points
<b>1) PROJECT UNDERSTANDING</b>	<b>10</b>
1.1. Understanding of the scope and expected outcomes of the activity to be carried out in the context of the contract, overall and for each work assignment and potential additional order forms. Brief description of main issues/frameworks identified in academic/policy literature focused on analysis of the labour market implications of digitalisation and skills mismatch for individuals.	10
<b>2) METHODOLOGY</b>	<b>75</b>
<u>2.1. Methodological approach:</u> Adequacy of the methodological and survey mode/implementation approach proposed, awareness of possible methodological and technical difficulties and constraints, and anticipation of possible solutions; value added of the services/approach offered, compared to other possible alternative approaches.	5

<u>2.2. Sampling:</u> Adoption of scientific principles of survey sampling, proposed sampling approach, proposed sampling population (universe), nature of stratification sampling if required, ability to access well-defined (updated) registers of potential subjects, adoption of appropriate weighting procedures, methodology for effective data collection of target sample sizes, strategies to achieve target sample sizes and minimise non responses and their impact	15
<u>2.3. Operational and fieldwork coordination:</u> Ability to ensure operational coordination between the coordinating authority and the network of national contact points and monitoring of processes so as to effectively carry out the survey in all EU countries, nature/degree of coordination/coordination efficiencies between core team and national contact points, approach to training and monitoring interviewers, quality of fieldwork materials and approach to preparing them, strategies to report on fieldwork progress/ timely detect issues during field work and derive appropriate adjustment responses	10
<u>2.4. Number of interviews:</u> Inclusion of an additional number of completed interviews/net number of cases per country beyond the minimum number required	10
<u>2.5. Questionnaire development:</u> Proposed key questions that could be adopted by the 2 <sup>nd</sup> ESJS master questionnaire to meet the specific objectives and research questions described in Table 1 section 2.2.3	10
<u>2.6. Translation:</u> Nature of adopted translation process to ensure the accuracy and consistency of the master English questionnaire with respective national questionnaires in each individual country surveyed.	10
<u>2.7. Cognitive and pre-testing phases:</u> Nature of adopted process for carrying out cognitive and pre-tests to analyse and refine the master questionnaire prior to the implementation of the fieldwork.	10
<u>2.8. Data and data quality analysis:</u> Proposed procedures and parameters of data quality processing e.g. prepare, code, process, weight and deliver the data as well as evaluate the quality of the data, including their comparison with existing surveys.	5
<b>3) ORGANISATION AND PROJECT MANAGEMENT</b>	<b>15</b>
<u>3.1. Project management and work organization:</u> - Function, role and suitability of the team leader/team members/national contact points; management structure; allocation of tasks among experts to ensure skills and experience mix and coverage of complementary subjects based on professional experience and qualifications of the expert team; communication and reporting to Cedefop. - Timetable and project's workflow outlining the intended organisation and milestones, and demonstrating the feasibility of the proposal.	10
<u>3.2. Quality assurance and risk management:</u> Tools and processes to be used taking into account the specific characteristics of the project; back-up/replacement arrangements; adequate consideration of possible hindrances, risk management, ethics and data protection	5
<b>OVERALL TOTAL SCORE (Total Quality Value)</b>	<b>100</b>

In order to guarantee a minimum threshold of quality, offers that

☐ do not reach a minimum of 50% of the possible score for each of the three award (evaluation) criteria OR

- do not obtain an overall total score (Total Quality value) of minimum 70 (of a maximum of 100) points against the award (technical) criteria,
- will be considered unacceptable and will be eliminated from further evaluation. Only the technically compliant (acceptable) tenders as per the above will be subject to Financial (Price) Evaluation (5.3).

## 5.2 Technical proposal

The technical tender needs to be uploaded in the e-Submission application<sup>53</sup> in the relevant section:

*"Tender" "[name of Call for Tender]"*.

The tenderer selects the "Technical Tender" document from the dropdown box ("Financial Tender or Technical Tender"). The e-Submission application allows attachment of as many documents as necessary.

The tenderer's technical proposal should consist of a clear and comprehensive response to all requirements as per the Terms of Reference in point 2 above providing a practical, detailed description of the services proposed for performance of the contract.

Tenderers are requested to organise the technical offer in headings or to structure it in such a way as to ensure that the content of the technical offer meets the requirements set out in the Terms of Reference as closely as possible and to facilitate the subsequent evaluation of tenders against the technical award criteria. The estimated length of the Technical Proposal to be submitted is **60-80 pages** (all included, except table of contents as well as start and end pages). The font should correspond to Times New Roman size 12 pt with single line spacing and standard margins of 2.5 cm.

It is up to the tenderer to prepare in his Technical Proposal a detailed organisation and methodology such that they fulfil (comply in full to) all requirements outlined in the Terms of Reference. In particular, the tenderer is encouraged to clearly address in his Technical Proposal the necessary tasks envisioned to meet the requirements of the work packages specified (see section 2.3 above).

For the technical evaluation of the offer against the award (technical) criteria mentioned above, the tenderer must provide the following documents and/or information:

### For award criterion 1:

- AC 1.1.  
A concise discussion of the subject, demonstrating in-depth understanding of the associated literature and objectives of the activity (as described in section 2.1) (approx. 5 pages).

### For award criterion 2:

- AC 2.1-2.3:  
A detailed description of the methodological and sampling approach (sampling design, with emphasis on if a random probability sample is proposed), stratification if any, weighting procedures, use of good quality sampling registers, application of appropriate probability sampling procedures for surveying hard-to-reach households), justification of

<sup>53</sup> For more information please consult the e-Submission Quick Guide available at:

[https://webgate.ec.europa.eu/supplier\\_portal\\_toolbox/quickGuide/SP\\_quickGuide\\_en.pdf](https://webgate.ec.europa.eu/supplier_portal_toolbox/quickGuide/SP_quickGuide_en.pdf)

selection of survey mode (with discussion of respective advantages/potential biases) as well as coordination efficiencies of the operational infrastructure (e.g. network of national contact points and relevant comparative advantage for coordinating international surveys) to be used for carrying out the tasks and fieldwork specified in all work packages. Also proposed approach and reflections on anticipated difficulties/challenges for carrying out supplementary tasks/services to refine/alter the master dataset, including carrying out additional taxonomical (classification/clustering) analysis of unstructured information on technologies and skill needs using machine learning methods, or compiling a matched employee-employer dataset (see section 2.3) (approx. 20 pages).

○ AC 2.4:

A larger achieved sample size - obtained via the inclusion of an additional number of completed interviews in the survey beyond the minimum requirement per country as stated in section 2.3.2, attested by the submission of a completed list by country as in Table 8 in Annex H1. The bid with the *highest average number of proposed completed interviews per country* will receive 10 points, while the remaining tenderers will be awarded a number of points proportional to the bidder with the highest average number of completed interviews on the basis of the following formula:

Points =  $10 \times (\text{average number of completed interviews per country proposed} / \text{average number of completed interviews per country proposed by the highest bidder})$ .

Example:

- Tenderer 1: average number of proposed completed interviews per country = 1 000

- Tenderer 2: bidder with highest average number of proposed completed interviews per country: 2 000

Points awarded to Tenderer 1 =  $10 \times (1\,000 / 2\,000) = 5$  points;

Points awarded to Tenderer 2: 10 points.

To satisfy the above criteria, Table 8 in attached Annex H1 should be filled-in, indicating the target countries to be surveyed under the contract, the proposed achieved sample size per country by the Tenderer and the estimate of the unit cost (in EUR) per interview for each of the target countries. The unit cost per interview should take fully into account/incorporate the associated costs of fieldwork preparation, organisation and implementation (e.g. fieldwork materials, guidelines, interviewer training and reimbursement, quality control checks, fixed fees of national contact points, travel/subsistence costs for carrying out interviews etc.) as described in section 2.3.

○ AC 2.5:

Proposal and phrasing of at least 7 survey questions (main question item and relevant options to be selected by survey respondents) to be potentially included in the 2<sup>nd</sup> ESJS master questionnaire, addressing at least one (1) of the specific research questions in each of the five sections (A, B, C, D, E) of Table 1. The proposed questions could be taken into account in the development of the full questionnaire, which will be developed externally by Cedefop and its expert working group and delivered to the contractor following the contract award.

Sound and clear justification of the rationale and formulation/operationalisation of each question (as would be included in the survey items background note), based on existing empirical literature, and of proposed measurement options/labels/scaling, drawing on the

tenderer's prior experience with formulating survey items in international questionnaires (approx. 5-10 pages).

- AC 2.6:  
Identification of the nature of translation services and process to be used to fulfil the requirement of developing robust national questionnaires, including proposed phases of translation of master questionnaire to the target languages, reconciliation steps to ensure consistency between the master and translated versions and necessary translation checks including proofreading and editing (see section 2.3). (approx. 5-10 pages).
- AC 2.7:  
Description of the cognitive and pre-testing methodology to be used for validating definitions and testing challenging survey items in the draft master questionnaire, the nature/format of subsequent analysis and reporting of interpretations of the outcomes of the cognitive and pre-tests and suggested process for making improvements to the master and national questionnaires (see section 2.3) (approx. 5-10 pages).
- AC 2.8:  
Proposed procedures and parameters to prepare, process, and deliver the master data as well as to evaluate the quality of the data delivered, including suggested quality checks and their comparison with existing surveys. Suggested (example) template/structure of final data codebook, data quality and summary data analysis reports to be delivered (see section 2.3) (approx. 10 pages).

### For award criterion 3:

- AC 3.1:
  - A description of the work organisation and management, i.e. the team to be assigned to the project and the distribution of tasks among them, based on respective professional experience and expertise/qualifications. Detailed outline of the man-days of individual team members foreseen, to carry out each of the work assignments of the contract. Description of the channels of communication and of project management processes between the tenderers' core team, national contact points and Cedefop (approx. 10 pages).
  - A detailed timetable with description of the deliverables and different stages of work to ensure successful and on-time delivery of tasks (approx. 3-5 pages).
- AC 3.2:  
Analysis/reflections of the likely difficulties/risks to be encountered in carrying out the work and indications of how the tenderer intends to address and mitigate them throughout the duration of the project (risk assessment analysis) (approx. 3-5 pages).

The tenderer shall identify a **Project Manager** within his organisation who will represent the **single contact point for all administrative and operational communication** in regards to the contract implementation. As appropriate, the Project leader (see 3.2.2) can also act as Project Manager or a different person from the Project leader can be identified as Project Manager. Cedefop will also designate the Contact Person in charge of handling the contact with the selected tenderer.

In addition to the above the tenderer must clearly specify which parts of the work will be subcontracted (if any) and specify the identity of those subcontractors undertaking more than 10% of the work by value (or of all subcontractors if total subcontracting is above 40% of the work by value) as requested in point 4.2.

NB: All the information and means of proof provided commit the contractor throughout the duration of the contract.

### 5.3 Financial evaluation

The evaluation will be made on the basis of the **Total Price** offered (**Total Financial Offer TFO**) in the Table 7 - Financial Proposal/Scenario (see point 5.4 and Table 7 in Annex H). The TFO shall serve **for evaluation purposes only** and shall therefore not constitute the final amount of the FWC.

**Only unit prices indicated in Subtotals 2 to 6 of the Table 7 in Annex H and in Table 8 in Annex H1 will be binding for future order forms.**

The tenders are awarded points for the Total Price offered by using the following formula:

$Financial\ score = (cheapest\ Financial\ Proposal/Scenario / Financial\ Proposal/Scenario\ of\ the\ tender\ considered) * Y.$

Where  $Y$  = price weighting (see the complete formula under point 0 above)

#### Information concerning price

- The prices quoted must be fixed and not revisable **for the first two years of the contract. From the 3rd year onwards** price revision will be subject to the provisions of Articles I.5.2 and II.20 of the draft Framework Contract shall apply (see Annex B).
- Prices must be quoted in EURO and include all expenses.

Under Articles 3 and 4 of the Protocol on the Privileges and Immunities of the European Communities, Cedefop is exempt from all charges, taxes and dues, including value added tax (VAT). Such charges shall therefore not be included in the calculation of the price quoted.

[For contractors based in Greece, invoices will include VAT which is paid by Cedefop and later reimbursed by the State.]

[For contractors established in other countries exemption is direct (invoices are submitted without VAT), subject to fulfilling as necessary the requirements of Article 151 of Council Directive 2006/112/EC.]

[In Belgium, use of this contract constitutes a request for VAT exemption No. 450, VAT exemption article 42, paragraph 3.3 of the VAT code (circular 2/1978), provided the invoice includes: "Commande destinée à l'usage officiel de l'Union Européenne, Exonération de la TVA; art. 42 § 3.3 du code TVA (circulaire n° 2/1978)".]

#### 5.3.1 Evaluation of abnormally low prices

If any tender's price appears to be abnormally low in relation to the *services* offered, and in order to check if the tender can be considered valid, the evaluation committee will, before it may reject this tender, send a request for clarifications to ask for explanations on the components of the tender which it considers relevant to the presumed abnormally low price and shall verify those constituent elements taking account of the explanations received. If in that relation the tenderer cannot explain his price on the basis of the economy of the services or supplies offered, or the method used, or the technical solution chosen, or the exceptionally favourable conditions available to the tenderer, the tender will be rejected.

A price (TFO) will be considered abnormally low if it is lower than the average price of all technically acceptable offers (including the offer considered) by a rate of **actual deviation (%)** greater than the **acceptable margin of deviation** which is set to **25%**.

The **actual deviation** will be calculated as % as follows:

The difference between the average price of all technically acceptable offers and the value of the presumably abnormally low financial offer will be divided by the average price of all technically acceptable offers.

The approach of the Evaluation Committee to identify and eliminate abnormally low tenders will be the following:

- a) apply the acceptable margin of deviation from the average price of the other technically acceptable offers and set aside the offers that go beyond it;
- b) check if specific notes or specific items included in the offer justify to some extent the deviation; if not, or if inadequate, send relevant request for clarification(s) to the tenderer concerned;
- c) decide on the acceptability of the offer on the basis of the notes in the tender and/or the clarification reply received.

### 5.3.2 Financially unacceptable tenders

In the context of financial evaluation, the Evaluation Committee could find that tenders are unacceptable because the price is:

- abnormally low (see point 5.3.1);
- exceeds by 15% or more the estimated budget announced in these Tender Specifications (see point 1.5).

Such tenders will have to be rejected by the Evaluation Committee, independently of their quality value as determined in the preceding (technical) evaluation stage.

## 5.4 Financial Proposal/ Scenario

The total price in EUR needs to be encoded in the *e-Submission* application<sup>54</sup>.

The completed Financial Offer form (Annex H and H1) **ALSO** needs to be uploaded in the relevant section:

*"Tender"* "[name of Call for Tender]"

The tenderer selects the "Financial Tender" document from the dropdown box ("Financial Tender or Technical Tender"). The e-Submission application allows attachment of as many documents as necessary.

**Tenderers should not disclose their financial offer in any other part of their tender (technical proposal, supporting documents) other than the relevant section (Financial tender) in the e-Submission application.**

The Financial Offer form (Annex H and H1 – Financial Proposal/Scenario) must be clear and in compliance with the tender specifications.

It should indicate the total price in order to carry out the 'core' assignments (WA1-7) as indicated in Table 4 section 2.3.3. The tenderers must fill-in the Financial Offer form (Table 7 in Annex H) and present a detailed breakdown of the price offered. Any sum resulted from multiplications will automatically be calculated.

For Sub Total 1 of Table 7, the tenderer should indicate unit prices by filling in Table 8 in Annex H1 (in order to establish the budget of order forms). For each country, unit prices will be

<sup>54</sup> For more information please consult the e-Submission Quick Guide available at:

[https://webgate.ec.europa.eu/supplier\\_portal\\_toolbox/quickGuide/SP\\_quickGuide\\_en.pdf](https://webgate.ec.europa.eu/supplier_portal_toolbox/quickGuide/SP_quickGuide_en.pdf)



automatically multiplied with the minimum requested number of proposed interviews per country (column (1) of Table 8), as described in Table 3 in section 2.3.2. The sum of such multiplication for the 28 EU Member states (Total EU – Subtotal (F)) will automatically be calculated and inserted in Sub Total 1 in the Financial Offer form - Table 7 in Annex H. The total value indicated for Sub Total 1 will be estimated for carrying out the survey in the 28 EU Member States (i.e. excluding Norway and Iceland; unit prices per interview for these countries should however be provided in order to establish the budget of potential order forms, if samples are eventually ordered).

The Financial Offer form contains calculations in locked cells; however they will be checked for any arithmetical errors in computation and summation.

In the case of errors in the multiplication of the unit price and the quantity, the unit price as quoted will be the price taken into account for the evaluation of the offer. The Evaluation Committee will ask the Tenderer to confirm in writing the corrected calculation so that it may eventually be included in the contract.

## 6 INFORMATION ON PRESENTATION AND CONTENT OF TENDER

It is important that tenderers provide all documents necessary to enable the Evaluation Committee to assess their tender. Tenderers should fully respect the instructions as indicated in the procurement documents.

In addition, below you will find details of the required documentation.

### 6.1 Supporting documents

- the “*Declaration on honour on exclusion criteria and selection criteria*” requested in point 3.1 and standard template found in Annex C;
- the *Selection criteria documents* as requested in points 3.2, 4.1, 4.2
- *Questionnaires 1 – 6* as found in Annex G
- *Power of Attorney* (Model 1 or 2), as required in point 4.1(if applicable) and found in Annex I
- *Model of Letter of Intent for Subcontractor/s* as required in point 4.2 (if applicable) and found in Annex J(a)
- *Model of Letter of Intent for External Expert/s* as required in point 3.2 (if applicable) found in Annex J(b)
- the *Legal Entity Form* as requested in point 3.3 and found in Annex D
- the *Financial Identification Form* as requested in point 3.3 and found in Annex E

In the case of tenders submitted by groupings (consortia) or involving contribution by subcontractors, all relevant documentation as requested in points 4.1 and 4.2 respectively (with reference to points 3.1, 3.2 and 3.3) should also be submitted.

### 6.2 Technical proposal

- the Technical Proposal providing all information requested in point 5.2, including information relevant to subcontracting, if any, as requested in point 4.2.

### 6.3 Financial Proposal/Scenario

- the Financial Proposal/Scenario containing all information requested in point 5.4 and in Table 7 in Annex H and Table 8 in Annex H1.

# **ANNEX A**

## **Contract Notice**

**(Given as a separate file in \*.pdf format)**

# **ANNEX B**

## **Draft Contract**

**(Given as a separate file in \*.pdf format)**

## **ANNEX C**

**“Declaration on honour on exclusion criteria and selection criteria”**

**(Given as a separate file in \*.docx format)**

# ANNEX D

## Legal Entity Form

Legal Entity Form to be downloaded, depending on the nationality and legal status of the tenderer, from the following website:

[http://ec.europa.eu/budget/contracts\\_grants/info\\_contracts/legal\\_entities/legal\\_entities\\_en.cfm](http://ec.europa.eu/budget/contracts_grants/info_contracts/legal_entities/legal_entities_en.cfm)

Legal Entity Form to be completed and signed by a representative of the tenderer (group leader in case of consortium, with indication of entity, name and function) authorised to sign contracts with third parties. It should not be signed by sub-contractors (if any).

# ANNEX E

## Financial Identification Form

To be downloaded, depending on the nationality of the tenderer, from the following website:

[http://ec.europa.eu/budget/contracts\\_grants/info\\_contracts/financial\\_id/financial\\_id\\_fr.cfm](http://ec.europa.eu/budget/contracts_grants/info_contracts/financial_id/financial_id_fr.cfm)

and completed and signed by an authorised representative of the tenderer (group leader in case of consortium, with indication of entity, name and function), but not by subcontractors.

**PLEASE NOTE:**

Please indicate the BIC (Bank Identification Code) in the REMARKS box of the downloaded form.

# ANNEX F

## Check list of mandatory documents

The purpose of the table below is to facilitate the preparation of the tender by providing an overview of the documents that shall be included (marked by ■) depending on the role of each economic operator in the tender (coordinator/group leader in joint tender, partner in joint tender, single tenderer, subcontractor/external expert). Some of the documents are only relevant in cases of joint tenders or when subcontractors are involved. Additional documents might be necessary depending on the specific characteristics of each tender. Documents that must be signed are marked with a signature icon (✍).

Description		For joint tenders submitted by a consortium			Where to fill in / upload a document in e-Submission
		Single tenderer	Coordinator or group leader in joint tender	All partners in joint tender	Sub-contractor /External expert
Tender Report	■✍	■✍			Generated by the e-Submission application once all information and documents below have been encoded and uploaded in the application <sup>55</sup>
Power of attorney of partners in joint tender indicating the group leader (point 4.1 & Annex I)				■✍	<i>Attachments' section - &gt;'Technical and professional capacity' tab</i>
Letter of intent of subcontractor (point 4.2 & Annex J (a))				■✍*	<i>'Attachments' section - &gt;'Technical and professional capacity' tab</i>
Letter of intent of external expert (point 3.2 & Annex J(b))				■✍	<i>Attachments' section - &gt;'Technical and professional capacity' tab</i>
Legal Entity Form (point 3.3 & Annex D)	■✍	■✍	■✍		<i>'Attachments' section -&gt;'Other documents' tab</i>

<sup>55</sup> When the *tender report* is signed by hand, a scanned copy must be attached to the tender in e-Submission and the hand-signed originals must be sent by letter to Cedefop (for more information see the Invitation to Tender)

\*Only those subcontractors whose share of the contract is above 10% (see point 4.2 of the tender specifications).



Description	For joint tenders submitted by a consortium				Where to fill in / upload a document in e-Submission
	Single tenderer	Coordinator or group leader in joint tender	All partners in joint tender	Sub-contractor /External expert	
Supporting documents for the Legal Entity File Form (point 3.3 & Annex D)	■	■	■		'Attachments' section ->'Other documents' tab
Financial Identification form (either signed & stamped by the bank or accompanied by a recent bank statement) (point 3.3 & Annex E)	■✍	■✍			'Attachments' section ->'Other documents' tab
Exclusion and Selection Criteria form (point 3 & Annex C)	■✍	■✍	■✍	■✍*	'Attachments' section' -> 'Declaration on honour' <sup>56</sup>
Evidence of Economic and financial capacity (point 3.2.1)	■	■	■	■*	'Attachments' section ->'Economic and financial capacity' tab
Evidence of Technical and professional capacity (point 3.2.2)	■	■	■	■*	'Attachments' section ->'Technical and professional capacity' tab
The following sections shall be provided in the tender, their absence would mean rejection of the tender for incompleteness:					
Technical Proposal (point 5.2)	■	■			'Tender Data' section ->'Technical tender' tab
Financial Proposal (point 5.4)	■	■			'Tender Data' section ->'Financial tender' tab

<sup>56</sup> When the *Declaration of honour* is signed by hand, a scanned copy must be attached to the tender in e-Submission and the hand-signed originals must be sent by letter to Cedefop (for more information see the Invitation to Tender)

\*Only those subcontractors whose share of the contract is above 10% (see point 4.2 of the tender specifications).

# **ANNEX G**

## **Questionnaires 1 - 6**

**(Given as a separate file in \*.doc format)**

# **ANNEX H and ANNEX H1**

## **Financial Proposal/Scenario**

**(Given as a separate file in \*.excel format)**

# **ANNEX I**

## **Models of power of attorney**

**(Given as a separate file in \*.doc format)**

# **ANNEX J (a)**

## **Model of Letter of Intent for Subcontractor/s**

**(Given as a separate file in \*.doc format)**

# **ANNEX J (b)**

## **Model of Letter of Intent for External Experts**

**(Given as a separate file in \*.doc format)**

# **Annex K: Cedefop Style Manual**

**(Given as a separate file in \*.pdf format)**

# **Annex L: e-Submission practical guide for economic operators**

**(Given as a separate file in \*.pdf format)**