

5 Work, employment and skills

5.1 Domain description

The spread of what is called new ways of working, often being made possible by advances in information and communication technology (ICT), has been described as a paradigm shift. In general, the transition from the previous to the recent paradigm is characterised by developments toward greater flexibility of labour deployment. A changing economic environment together with transformations in social attitudes are believed to have resulted in greater spatial, contractual and temporal flexibility, shifts towards less uniform social security provision, the need for updated skills and multi-tasking, and significantly more dynamic skill requirements. In this, ICTs act as enablers of change, although they do in no way predetermine outcomes.

SIBIS divides indicator research on “work, employment and skills” into three domains: (a) skills, (b) work organisation, and (c) structure and outcomes of employment. **Skills** are the necessary basis for the productive deployment of individuals in the production process (**work organisation**) which in turn creates the foundation for **employment** and the value derived from it (**outcomes** such as productivity, remuneration, work satisfaction, but also work-related health impairments etc.). Available indicators as well as indicators which are in development, i.e. have been piloted in one-off studies or in one or a small number of EU Member States, have been collected. Data sources range from administrative data collections by supranational statistical bodies such as Eurostat, ILO and the OECD, and by national statistical offices, to regular surveys conducted by research organisations.

5.2 Description of major problems and gaps in statistical coverage

The stock-taking analysis came up with plenty of indicators that cover the topic of work, employment and skills, but our research has shown that the developments that mark the shift from industrial to Information Society are insufficiently represented by available data. A common problem with the large majority of indicators identified concerns the timeliness of the information, and the regularity of data gathering exercises. Many of the surveys which produce the most interesting data are conducted only once in several years, or they are one-off exercises without any prospect of producing time-series data. Another important issue is that indicators should allow for breakdown of data by gender and other demographic as well as socio-economic variables. This is necessary to support EU policy-making in the area of e-Inclusion, equal opportunities and the prevention of a digital divide.

Fields in which additional indicators, together with data gathering structures that provide for continuous and timely data, are most urgently needed are: lifelong learning, in particular ICT-related and informal learning; supply of ICT-related skills inside of the labour market and among the unemployed and the labour reserve; ICT-related skill requirements; changes in work content and working conditions; telework in the widest sense of the word, especially tele-cooperation, mobile teleworking and other less "visible" kinds of telework; changes to the formal as well as "informal" contract between workers and employers; quality of jobs with flexible work arrangements; and non-monetary benefits of employment as well as detriments from work.

5.3 New indicators overview

Indicator development in SIBIS focuses on indicators for which data can be collected through telephone-based interview surveys, as SIBIS conducts a series of such surveys as part of the project. The table below shows the main domain and sub-domain areas for which indicators have been developed, together with a selection of indicators which are piloted in SIBIS.

Thematic Domain	Sub-domain	Selected new level 1 indicators	Piloting in SIBIS
Skills	Skill acquisition	ÿ Use of e-learning by workers (offline/online)	SIBIS GPS
		ÿ Spread of self-directed learning	SIBIS GPS
		ÿ Share of companies that offer staff access to ICTs	SIBIS DMS
		ÿ Use of PIAPs by the population, by teleworkers	SIBIS GPS
	Skill provision	ÿ ICT skills in the labour force (self-assessed)	SIBIS GPS
ÿ ICT skills in the labour reserve (self-assessed)		SIBIS GPS	
Work Organisation	Content/ applied skills	ÿ Spread of cross-organisational co-operation	SIBIS GPS
		ÿ Participation in decision-making in jobs with flexible working arrangement	SIBIS GPS
	Time	ÿ Worker-centred adaptability of working times	SIBIS GPS
	Place	ÿ Share of teleworkers according to telework intensity (home-based, mobile, SOHO)	SIBIS GPS
		ÿ Share of jobs which are perceived feasible for telework	SIBIS GPS
		ÿ Interest in telework (demand side)	SIBIS GPS
		ÿ Teleworker churn	SIBIS GPS
ÿ Teleworkers by motives for starting telework		SIBIS GPS	
ÿ Telework-enabled labour force participation	SIBIS GPS		
Contract	ÿ Spread of eLancing among self-employed	SIBIS GPS	
Employment Structure and Outcomes	Benefits from employment	ÿ Relative job satisfaction in flexible work arrangements	SIBIS GPS
		ÿ Job quality of jobs with flexible work arrangements	SIBIS GPS
		ÿ Perceived job security of workers with flexible work arrangements	SIBIS GPS
		ÿ Outcomes of flexible work arrangements on work-family balance	SIBIS GPS
	Employment structure	—	—
Output of employment	—	—	

For analysis and dissemination of indicator development results, the topic report includes suggestions for compound indicators (indices). One of these is intended to represent worker-centred flexibility of work arrangements, the other to represent company-centred flexibility of work arrangements. When contrasted against a traditional measure of labour productivity, these two indices will allow for interesting insights into the interrelation between different types of labour market flexibility and productivity.