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Roadmap for smart workplace

Description and state of the art	
Definition	A *Smart or High Performance Workplace* is a physical or virtual environment designed to make workers as effective as possible in supporting business goals and providing value. Such a workplace results from continually balancing investment in people, process, physical environment and technology, to measurably enhance the ability of workers to learn, discover, innovate, team and lead, and to achieve efficiency and financial benefit.[391, 392]
Addressed societal /business or public sector need	**Business need:** Talent acquisition and retention; **Public sector need:** Simplifying recruitment procedures
Existing solutions /applications /services	Many employees prefer to have a mobile working environment and mobile solutions to help them to improve their work-life-balance: • Mobile solutions (smartphones & tablets, wearables, cloud computing) According to a foresight study in 2040[393] e.g. the following properties will characterize a smart workplace: • Flexible working contracts (increase mobility and unconventional working patterns) • "wellness" services at the workplace • Focus on collaboration For acqisition and recruiting activities Social Media is used.[394]
Main actors regarding R&D of this technology	• Fraunhofer-Gesellschaft zur Förderung der Angewandten Forschung e.V. • Commissariat a l'Energie Atomique et aux Energies Alternatives • University of Surrey • Katholieke Universiteit Leuven • Atos Spain SA • Aalborg Universitet • Technische Universiteit Eindhoven • Telefonica Investigacion y Desarrollo SA

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		• Thales Communications & Security SAS
Current research activities		Current research activities in general: • EU R&D: INTERACT, **Working environment for persons with special needs**: MATS, **Video Communication Workplace**: VIDEOCOM, **Smart factory environments**: SatisFactory, FACTS4WORKERS, SO SMART • National/Internat.: Living Lab smart office space[173] • Other: Dell & Intel Future Workforce Study - Global Report[395, 396] Smart Workplace Market: Global Industry Analysis and Opportunity Assessment 2016-2026[397]
Impact assessment		**Public sector modernization:** o Efficiency and productivity o Quality of Services Provided o Image Modernization **Public sector as innovation driver:** o Productivity (Labor / Capital / Resource) & Growth o Innovation o Public Safty
Potential use cases		Smart workplaces offer the possibility to change the working environment for employees, to make it more attractive for them. Flexible working environments help to:[398] • Acquire and recruit talents from abroad • Open up to globalization (communicate to suppliers and customers working in extreme time zone differences) • Develop fast growing businesses
Technological challenges		With technological solutions there a more flexible working environment can be realised. But more challenging technologies are not that important for a better work-live-balance and thus are not for acquisition and retention of employees. Technologies are only the driver but not of crucial importance.[399]
Necessary activities (in or for the public sector)		
Development of a specific training necessary		No issues have been identified.

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Advanced or adapted ICT infrastructure needed	🟢	There are already ICT solutions for smart workplaces.
Change of (public sector internal) processes necessary	🟢	No issues have been identified.
Promotion / information of stakeholders necessary	**Open task**	Stakeholders need to be aware of the lack of specialists in the following years. This lack of specialists will be the consequence of the demographic change. As a result there should be training possibilities and recruiting and retention strategies.[394]
Need to deal with cyber security issues	🟢	No issues have been identified.
New or modified legislative framework or regulations necessary	**Open task**	There is a growing regulatory backlash concerning the 24-hour work culture.

Some big German companies have started banning emails out of work time. There are campaigns to put that into law, both in Germany and in France.

Volkswagen agreed, after pressure from staff, to stop forwarding emails outside normal working hours. Also Daimler automatically deletes emails sent to staff late at night. Germany then made it illegal for companies to contact their staff when they were on holiday.[398] |

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Development of a common standard necessary	**Open task**	No issues have been identified.
Need for a more economical solution	[green bar]	No issues have been identified.
Ethical issues	[green bar]	No issues have been identified.
Societal issues	[green bar]	No issues have been identified.
Health issues	**Open task**	Non-stop emails and a 24-hour work culture (working 24/7= to be available 24 hours a day seven days a week) because it is expected or there is pressure or it is implied. Additionally there is a rise of insecure employment. This conditions lead to increased health issues like psychological diseases. [400]
Public acceptance	?	There is a controversial discussion if flexible smart workplaces implement a good work-live-balance because of the growing 24-hour work culture.