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# OSH research for safe new technologies

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# OSH and new technologies

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- Greener and more sustainable economy
  - Combination of old risks within new settings and conditions
  - Green jobs and new hazards
- Renewable energy technologies
  - Occupational exposure to biological agents, chemicals, new materials
- Waste management and recycling
  - Biological, chemical agents

# OSH and new technologies

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- New work forms
- Virtualization of the working environment
  - Integration of OSH aspects
- Smart and interactive materials
  - Efficacy ? Functionality ? ... Hazards
- New technologies
  - Extensive use of wireless communication devices, exposure to radiofrequency EMFs
- Industrial biotechnologies

# Questions

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- Are the priorities identified in the EU-OSHA report relevant in terms of the EUROPE 2020 strategy and the challenges identified in the strategy?
- How do the priorities identified in the report relate to the priorities for OSH research in your country/institute/research funding?
- Are there some missing issues you would like to point out?

# Europe 2020 challenges

- Excellent science
  - **collaborative research** to open up new and promising fields of research and innovation...
  - Provide researchers with excellent **training** and career development opportunities
- Competitive industries
  - Gap between the technological progress and safety research on new technologies
    - Promote « responsible » technologies integrating health and safety considerations
    - Risk prediction tools, « precautionary principle »

# OSH : Precautionary Principle ?

- Action principle based on
  - Methodical doubt
  - Early taking into account of hypothetical risks
  - Several dimensions / risk-generating activity
    - Potential damage assessment / advantages
- Proportionality based on
  - Choice in the health safety level
  - Anticipated severity of considered damage
  - Potential cost of risk management measures
  - Uncertainty and scientific plausibility of hypothesis

# Europe 2020 challenges

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- Tackling societal challenges
  - **Health**, demographic change and **wellbeing**
  - Food security, sustainable agriculture, marine and maritime research, and the bio-economy
  - **Secure**, clean and efficient energy
  - Smart, green and integrated transport
  - Inclusive, innovative and secure societies
  - Climate action, resource efficiency and raw materials

# Questions

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# ANSES occupational health policy orientations

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- Objectives of improving knowledge and prevention from the French Occupational Health Plan
  - Emerging risks, new technologies
  - Green jobs, renewable energy technologies
- New technologies
  - Extensive use of wireless communication devices, exposure to radiofrequency EMFs
  - Manufactured nanomaterials

# Radiofrequency EMFs

- “Traffic and Market report” (Ericsson, 2012)
  - A 15-fold increase in the internet traffic worldwide between 2011 and 2017
  - In 2017, the voice traffic could represent less than 5% of the total traffic on mobile networks
  - Emergence of 4G...
  - Recommendations for research
    - strengthen the assessment of the health effects of electromagnetic fields in bands > 6 GHz...

# Occupational exposure to EMFs

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- Identification of occupational exposure to EMFs
  - To better characterize exposures :  
low, intermediate, radiofrequencies...
- Regulatory framework
  - Mapping of occupational exposures that may exceed the thresholds of action
  - Analysis of measurement practices

# OSH and new technologies

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- New work forms
  - Virtualization of the working environment
  - Smart and interactive materials
- ➔ Changes in work conditions, content, organization...

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Thank you for your attention

<http://www.anses.fr>