Industry 4.0 and Just Transition

A brief introduction into IndustriALL’s work on Industry 4.0
JUST TRANSITION

INDUSTRY 4.0

Working Conditions

Climate Change
BACKGROUND
IndustriALL’s four strategic objectives

- Advance workers’ rights
- Building union power
- Confront global capital
- Sustainable industrial policy
FROM RESEARCH TO ACTION

IndustriALL: research + policy + strategic plan + action

• World conference on Industry 4.0 (October 2017)
  • Adoption of Action Plan
  • The Challenge of Industry 4.0 and the Demand for New Answers

• Trainings and workshops (in 2018/2019)
  • Company Networks (i.e. SKF)
  • Sectorial Activities (i.e., Global Conference ME)
  • Regions (Global South)
FROM RESEARCH TO ACTION II
IndustriALL: research + policy + strategic plan + action

• New research and update in 2021
  • Working document May 2021: survey by sectors
  • Early 2022: Research document + presentation material (syndex)

• Now: develop + roll out strategy
  • In accordance with Congress action plan
  • Internal debate + decisions

• Experts’ meeting + work in the regions
  • Surveys
  • Trainings
The future of work and industry 4.0 in the face of multiple drivers of change

Research Results + political implications
FROM STEAM POWER TO INDUSTRY 4.0
more than 2 centuries of continuous changes

Industry 1.0
Mechanization, steam power, weaving loom
1784

Industry 2.0
Mass production, assembly line, electrical energy
1870

Industry 3.0
Automation, computers and electronics
1969

Industry 4.0
Cyber Physical Systems, internet of things
Today
Hand-Eye-Coordination with Robots (Google)

- 14 robots learned simultaneously within ~800,000 pick attempts to grasp varied objects from a bin; a monocular camera is used
- several robots exchange their experiences
- also unknown objects are being picked, deviations of camera position are being compensated due to the robustness of the used algorithms
EVERY SECTOR TRANSFORMED BY INDUSTRY 4.0 and DIGITALIZATION

- Automotive
- Aerospace
- Mechanical engineering
- Textile
- Telecom networks

Digitalization
JOBS AT RISK – WE WORK ON ANSWERS

- Techno pessimism
  - 40 to 50% jobs at risk with automation
    (McKinsey, Frey & Osborne, Roland Berger)

- Techno optimism
  - 10% to 15% at risk with automation
    (OECD, France Stratégie)

- New jobs are being created (data analysts...).
- Some jobs are being transformed due to digitalization (maintenance...).
- Others are destroyed by digitalization.
NATIONAL POLICIES: INDUSTRY 4.0 STRATEGIES

The race is on: Competition on the back of workers?

USA

“Radical innovation”

Bringing digital innovation into the physical world
Start-ups for the internet of things and manufacturing renaissance

Europe, Specif. Germany

“Engineering excellence”

Bringing engineering excellence into the digital world
Visionary concepts integrating technology, society and economy

China

“Speed”

Pragmatic application of quick-wins and long-term strategy
Application of mature technologies strategic development of key technologies

Japan and South Korea

“Ability to scale”

Innovation by application
Massive construction of smart factories and very large manufacturers, strengthening products through domestic demand
IndustriALL’s APPROACH + ACTIVITIES

In this congress period happen:

• **Capacity Building**
  - Rollout research to staff + regions

• **Tool Box: i.e. training material**
  - Presentations, Trainings

• **Part of overall “The Future of Work and Just Transition”**
  - Added Research + Experts’ meeting/s

• **IndustriALL: Sectors + Regions enabled**
  - Translate knowledge in action