



UNCONFERENCE 2016 - INSIGHTS

Workstudio 4 | [#ws_industry4_0](#)

Industry 4.0 as enabler for sustainable Lifestyles

Sustainability 4.0?! real-time, connected, customised



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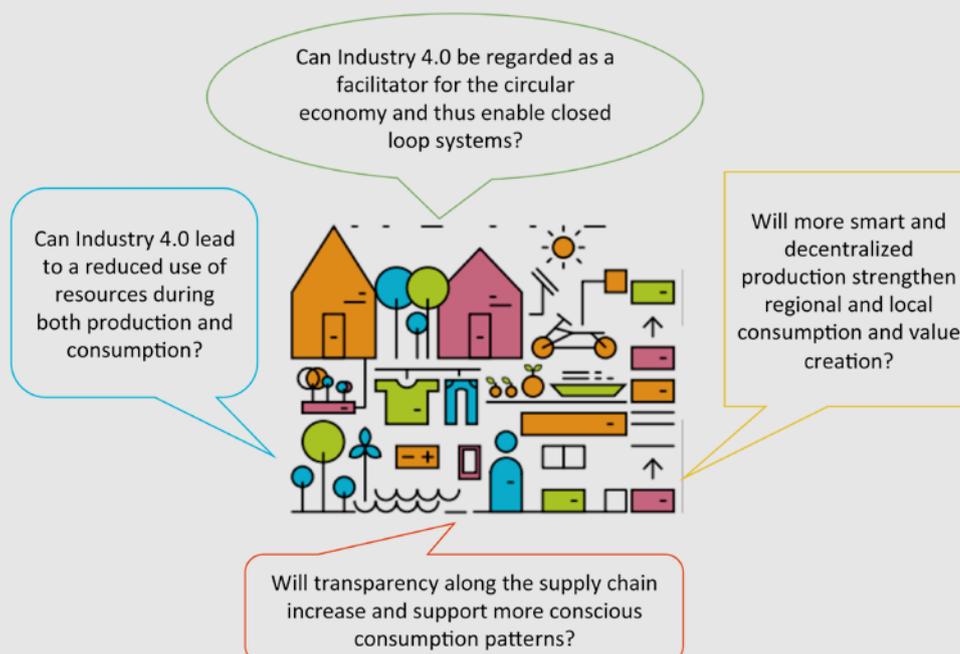
Sustainable lifestyles 4.0?

This workstudio shifted the attention of Industry 4.0, the Internet of Things, and Digitalisation to consumers and related sustainable lifestyle trends.

With input from leading business representatives from various sectors, it targeted the question of how we can use the transformative momentum of Industry 4.0 to support sustainable living and lifestyles. At the same time, it looked into how the consumer behaviour trends related to sustainable living will open opportunities for the developments around Industry 4.0. It highlighted the opportunities which Industry 4.0, the Internet of Things (IoT), and Digitalisation pose and demonstrated best practice activities that already exist. In doing so, the workstudio aspired to develop first framework conditions and success factors for building the bridge between the sustainable lifestyle perspective and Industry 4.0.

“A concept for Industry 4.0 should be developed in which sustainability is an integral part of the strategy.”

Linking sustainable lifestyles and Industry 4.0



Industry 4.0 in pharma research, development and production

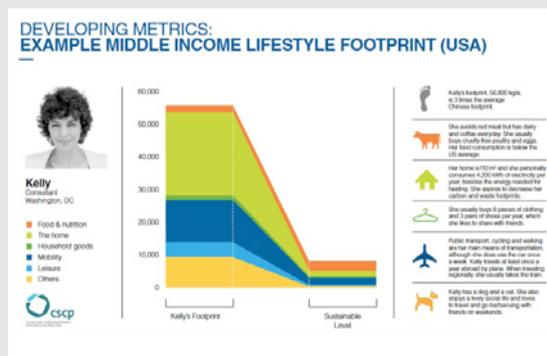
Starting with a welcome by **Dr. Klaus Jelich**, Site Manager of Bayer in Wuppertal, a factory tour in the Bayer facilities gave a hands-on insight into what technological development means for the evolution of industries. Being in Wuppertal since 1863, the facilities of Bayer have shaped the historical development of Wuppertal from both an economic and urban perspective. **Dr. Thorsten Pötter**, Operation Support & Safety at Bayer Pharma gave an insight on what Industry 4.0, the IoT, and Digitalisation of production mean for a life science company like Bayer. His presentation highlighted how digital manufacturing affects production processes and how manufacturing intelligence, facilitated by smart data integration, impacts the value chain. A reflection on the opportunities this implies as well as on the effects of Industry 4.0 on people skills rounded off the presentation.

The perspective of sustainable lifestyles for Industry 4.0

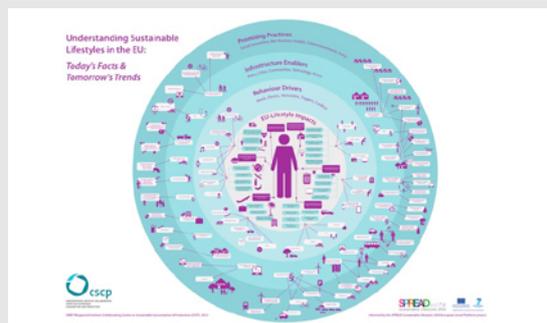
A presentation by **Thomas Wagner**, Project Manager at the CSCP, set the scene for building the bridge between Industry 4.0 and Sustainable Lifestyles. Why is it essential to consider the sustainable lifestyle perspective when shaping the developments around Industry 4.0? And how can this provide opportunities for different stakeholders involved? How will a sustainable lifestyle change consumer demands and could this be an important driver for Industry 4.0? Will a technological empowerment of the consumer turn supply chains into “demand chains”? The presentation demonstrated approaches for understanding lifestyles, behaviour drivers,



Source: Bayer Pharma AG



Source: CSCP



Source: CSCP

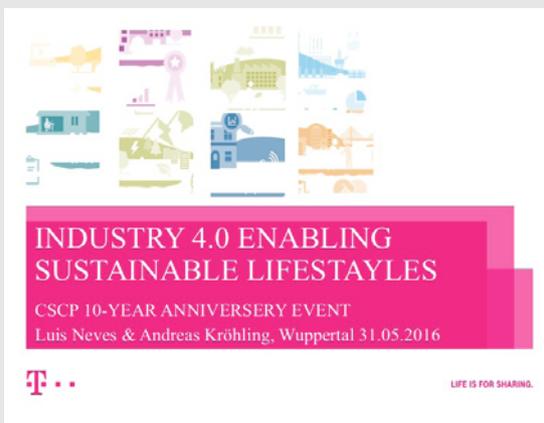
and framework conditions. Finally, it presented how an extended focus of Industry 4.0 can enable consumer engagement along the whole value chain while also creating business innovation opportunities.

New technologies, new opportunities

A presentation by **Luis Neves**, Group Sustainability and Climate Protection Officer, and **Andreas Kröhling**, Group Corporate Responsibility of Deutsche Telekom, demonstrated the key role that ICT plays in the developments around Industry 4.0, the IoT, and Digitalisation. Participants gained an understanding on how ICT impacts other industry sectors, different lifestyle areas, as well as how ICT products and solutions enable and speed up the shift to sustainable living. By presenting specific lifestyle oriented case studies such as connected mobility, smart housing and work solutions, as well as digitalisation in agriculture, the social and environmental benefits of ICT solutions were made visible.

Trends and technologies in logistics

Gina Chung, Project Manager at DHL Trend Research, and **Shehrina Kamal**, Product Management and Business Development at DHL illustrated how Deutsche Post DHL is identifying new trends and technologies to shape them into innovative, logistics solutions. Furthermore, they showed how the idea of fair & responsible business is challenging and influencing logistics. The session demonstrated data driven technologies such as DHL Resilience360, which companies can use to acquire and maintain visibility of their end-to-end supply chain.



Source: Deutsche Telekom AG



Source: Deutsche Post DHL AG

Turning different perspectives into new insights

After being inspired and stimulated by the presentations, participants were asked to use the insights they had gained for the group work, which was centred around **success factors, barriers, and key actions** for integrating the Sustainable Lifestyles perspective into Industry 4.0 developments.

Key insights

- Various **lifestyle areas** are affected by Industry 4.0, the IoT, and Digitalisation, e.g. mobility, housing, consumption.
- Industry 4.0, the Internet of Things, and Digitalisation hold the potential to **create positive sustainability impacts** along the **whole value chain**, e.g. through increases in efficiency, by facilitating circular economy solutions, enabling transparency, and traceability through the customisation of products.
- The strategies and developments around Industry 4.0 still do **not sufficiently consider the consumer & lifestyle aspect. The full harvesting potential is not being tapped** from a sustainability or business innovation perspective.
- Industry 4.0 will **challenge and change existing business models**. When business and industry leaders address this in the right way, it holds potential to develop new business models and spur innovation.

Key Barriers & Challenges

- The developments around Industry 4.0, the IoT, and Digitalisation can lead to increases in consumption and create negative sustainability impacts.
- There is a need for more **cross-sector collaboration** in order to develop a **concept for Industry 4.0** that includes the sustainability and the sustainable lifestyle perspective.
- There are various unresolved issues **around data** including ownership of data, clear and transparent handling of data, data privacy, and security.
- There is an overall need to better understand the **challenges and risks that new technologies have on society** as a whole and how they will shape our lives in the future.



Key Success Factors & Opportunities

- A **concept for industry 4.0** that includes the sustainability and lifestyle perspective needs to be developed. These should form an **integral part of the strategy for Industry 4.0** and not be regarded as a by-product.
- A **participative approach**, which includes various stakeholders from different industries but also from research and civil society, will help create larger impact and develop sustainable Industry 4.0 solutions.
- Industry 4.0, but even more the IoT and Digitalisation can be used to engage consumers. It can help to reach people emotionally and build sustainable values.
- We need to develop a **new understanding of the consumer** as he/she is turning into a prosumer and creator. This changing role may be a shift to develop more sustainable lifestyles, will influence industry players **creating new opportunities for their products, services, and business models.**

The workstudio demonstrated the potential of a sustainable lifestyles approach and its new consumption patterns to leverage Industry 4.0, IoT, and Digitalisation. It revealed that the consideration of the consumer and lifestyle perspective will be elementary for businesses as a digitalised and connected consumer will have implications on the business models throughout the whole value chain.

“Cross-sectional collaboration and industry partnerships hold the potential to create a larger impact of Industry 4.0 for sustainable lifestyles.”



What's next?

Considering the workstudio's results illustrating the range of future perspectives of the themes discussed, the CSCP would like to harness its experience on sustainable consumption and production to collaborate in building the bridge between Sustainable Lifestyles and Industry 4.0.

Future projects and discussions should enable a deeper understanding of opportunities, challenges, and gaps while engaging different sectors and stakeholders, guided by such questions as:

- What are the main synergies between Industry 4.0 and Sustainable Lifestyles?
- What are the main behaviour patterns of the consumer of the future? How will this drive production patterns?
- What kind of information would production companies like to have about sustainable lifestyles and consumption choices to improve competitiveness and sustainability in their business?
- What are the political, legal, and economic conditions needed to make Industry 4.0 upgrade into a framework for sustainable development?

The CSCP is open to hear your ideas and to think about piloting some of the discussed issues!

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