

How the Cleaning Industry is approaching Innovation: Facts, Trends and Outlook for Europe



White paper
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Cleaning Markets

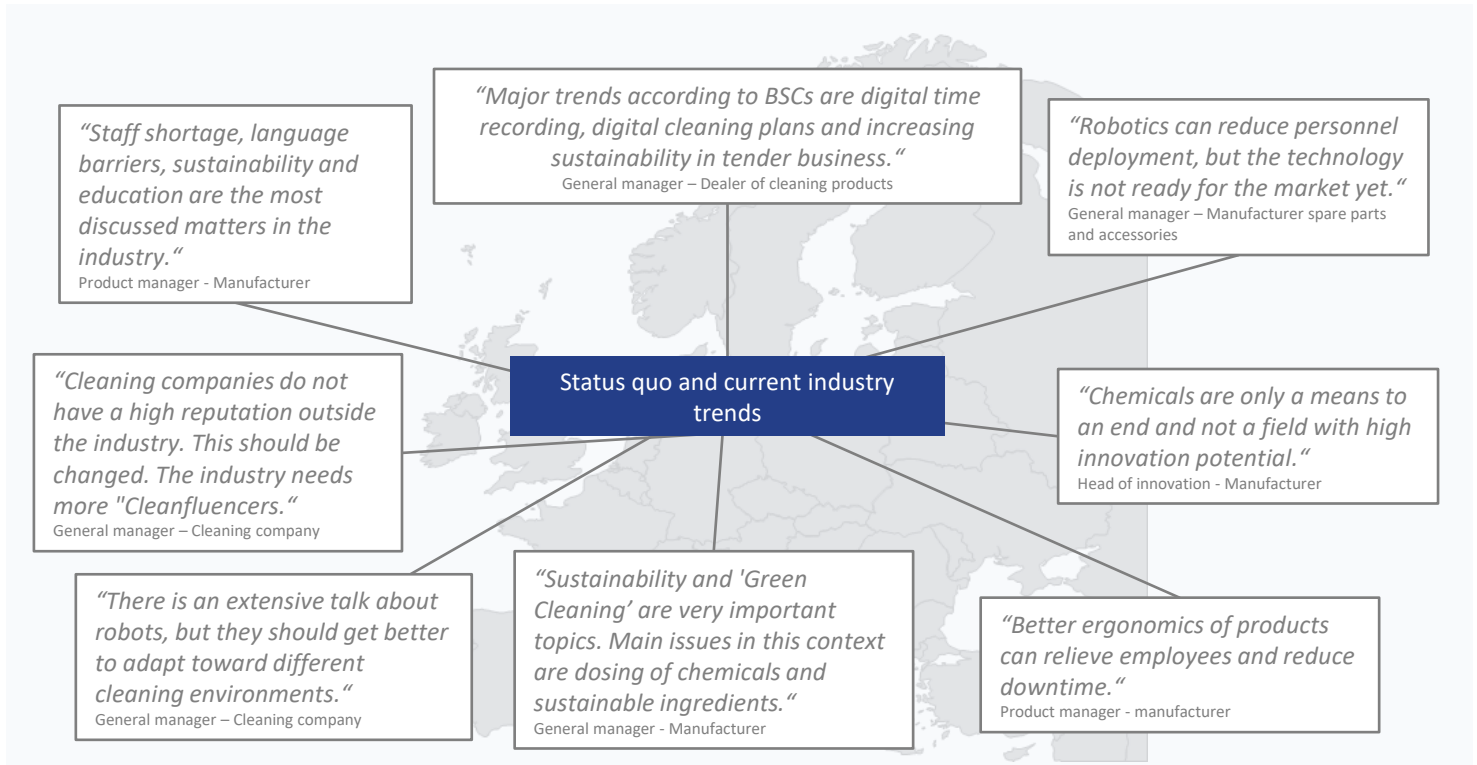


Innovation management in the
European cleaning industry

Facts, Trends & Outlook

1. Status quo and current trends
2. Innovations and innovation management
3. Digitalization and robotics
4. Future of cleaning
5. Conclusion and recommendations

Notable quotes from the expert interviews



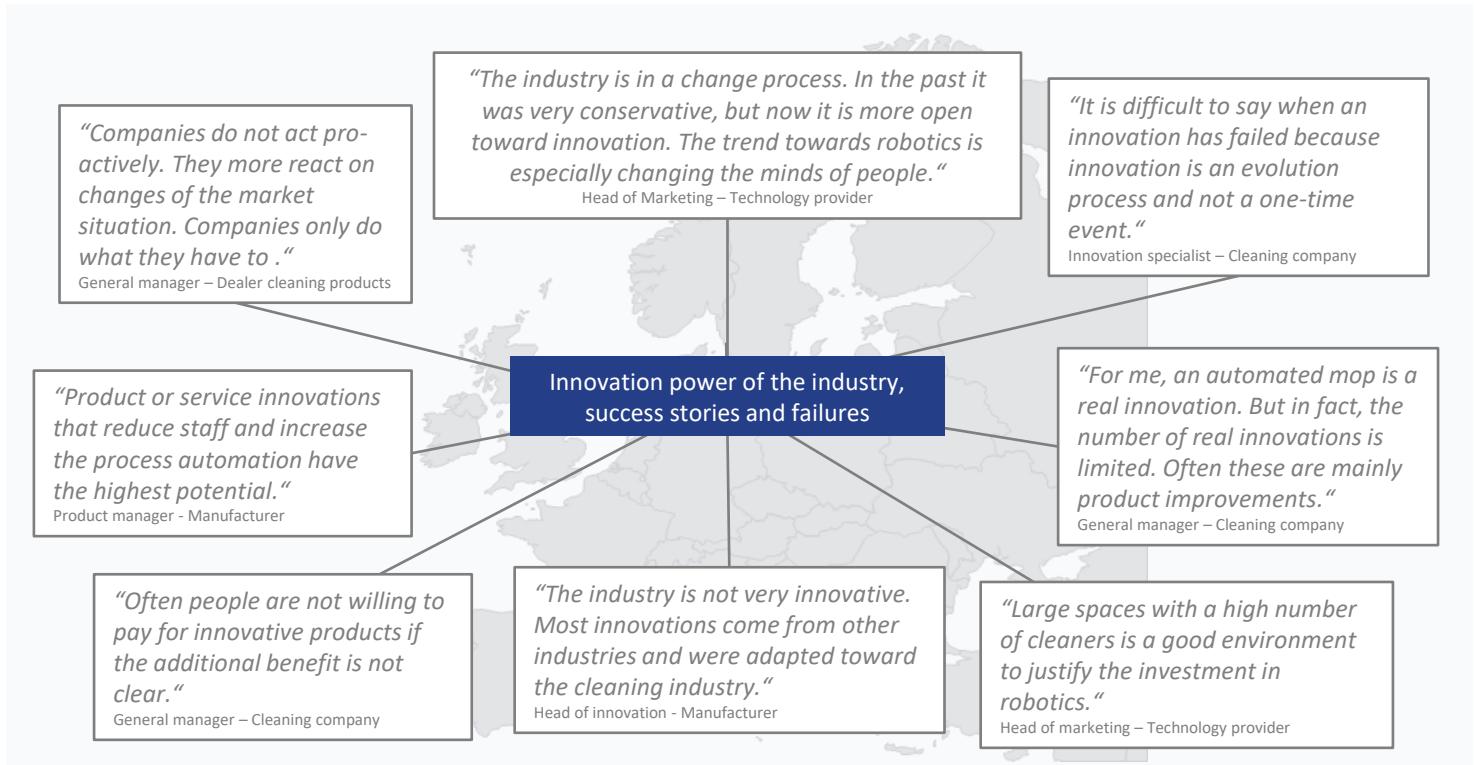
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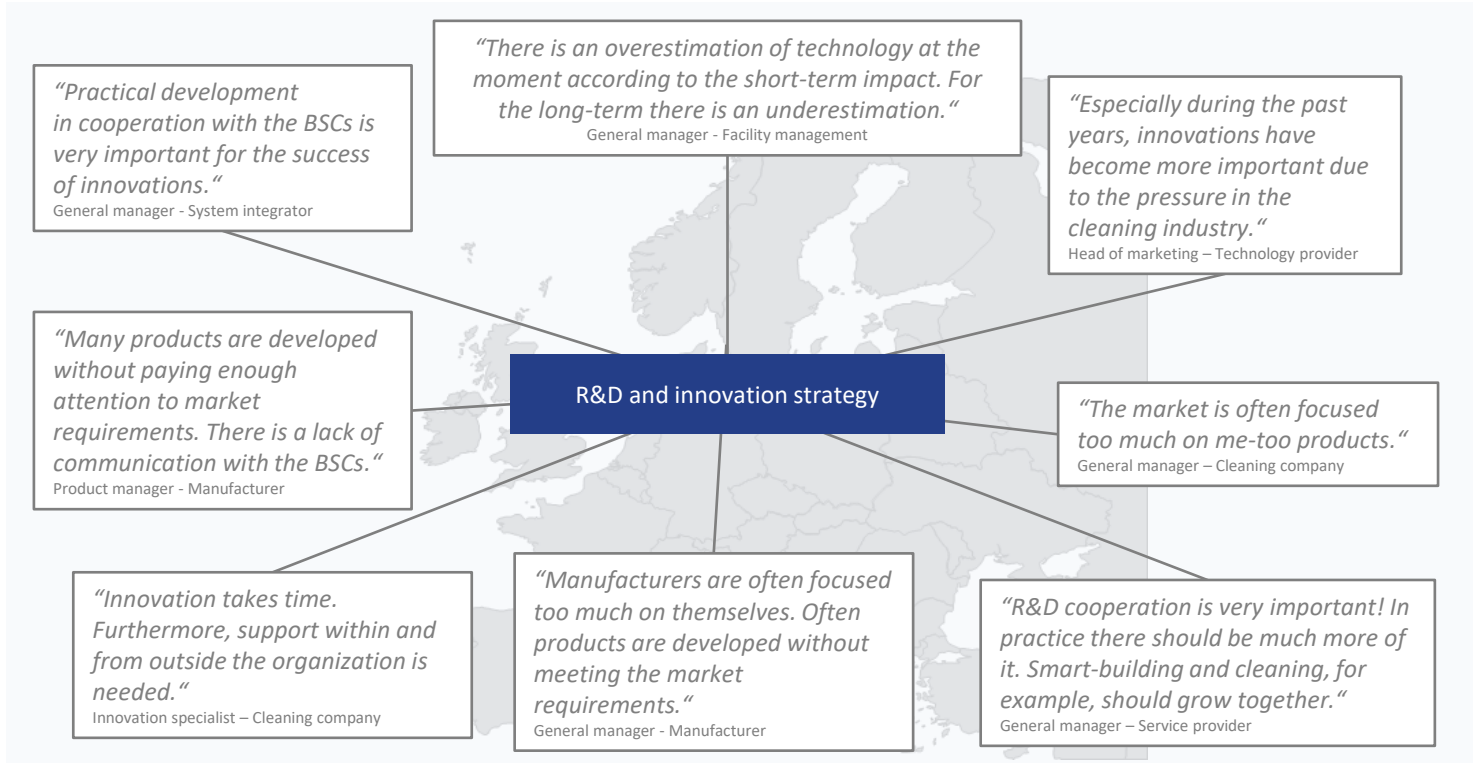
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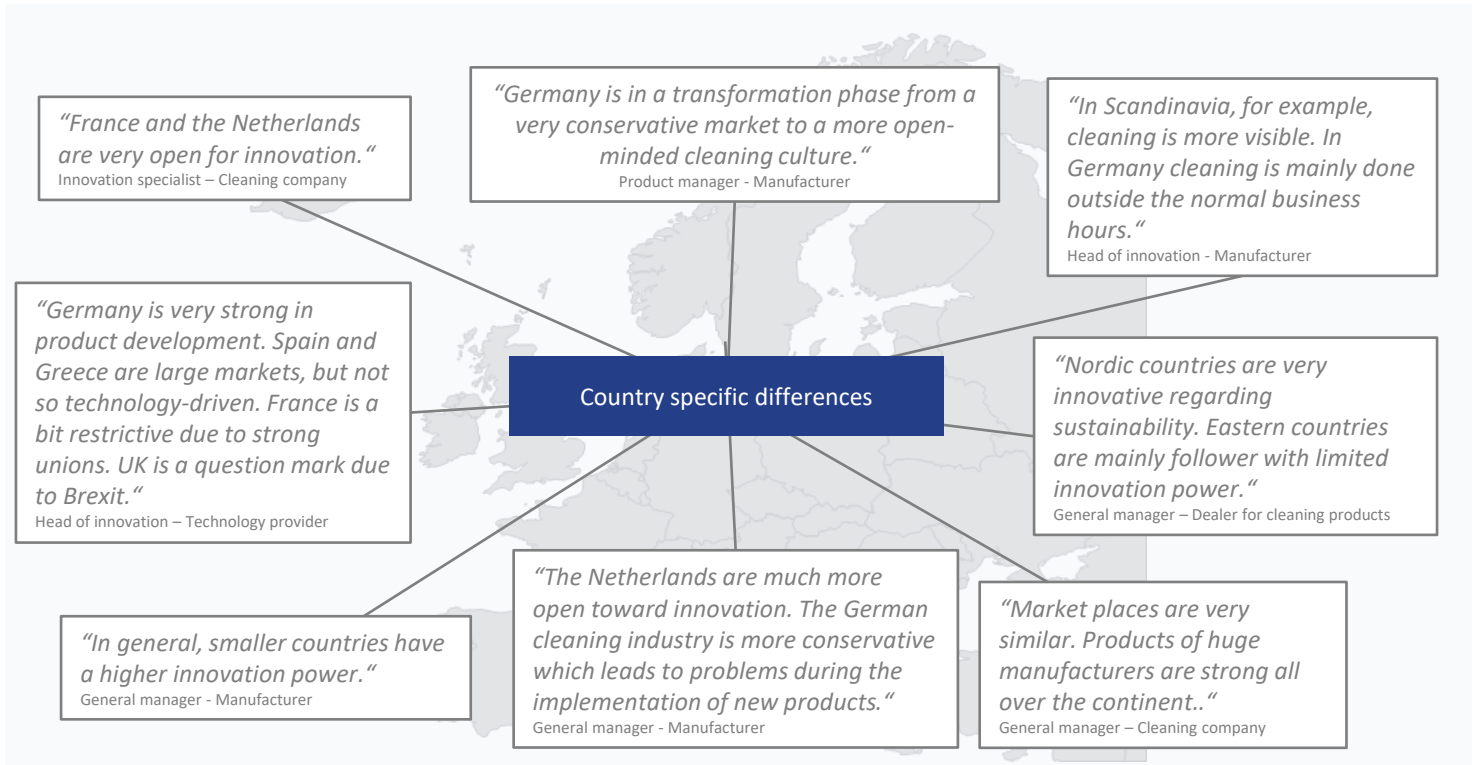
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Current market penetration



● High relevance ○ Low relevance

Future importance of robotics and digitalization



Current developments in the field of robotics and digitalization

- The industry is just beginning to adopt robots at scale.
- Increasing functionality and flexibility of these machines will support mass adoption in the future.
- Data protection and data utilization are very critical issues at the moment.
- While digital solutions are already implemented, robotics are still in a testing phase.

Importance of these technological innovations for the next decade

- There has been a consensus that the role of robotics and digitalization will play a greater role in the future of cleaning.
- Robotic technology is fitting for cleaning environments with large spaces like warehouses or large areas with carpets.
- Large BSCs are the first players in the market who will benefit from the new technologies.

Sources: Interviews DTO Research



Most important and needed innovations:

- Open technology platform for Internet of Things (IOT)
- Robots with different features to perform different cleaning tasks (e.g. vacuum, scrubbing and floor sealing)

Most important opportunities and challenges:

- Adaptation of robots for different cleaning environments
- Improvements in artificial intelligence
- Product individualization (toward user requirements and country specifics)
- Investment and financing

How the different segments will benefit from these technologies the most and why

- In general, all segments will benefit but with very different intensities.
- Especially large BSCs will have a competitive advantage with new technologies because they have the resources to implement them.
- It might be difficult to get SMEs to invest more in digitalization and automation if it is resource-intensive and complex.

Manufacturer



- Increase turnover
- Creation of an USP
- Data collection for new services
- Higher customer loyalty

BSCs

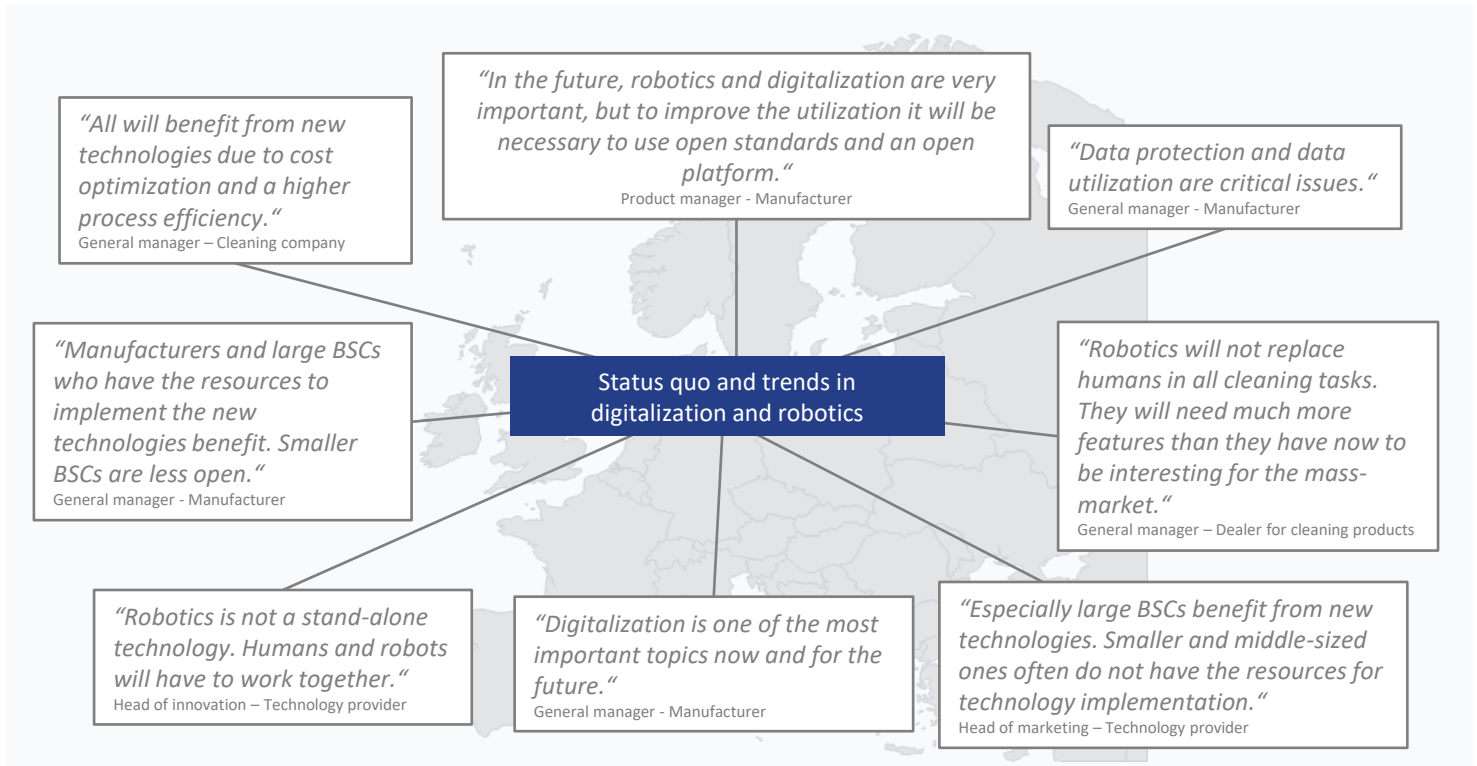


- Higher process efficiency and ongoing optimization
- Improvement of controlling
- Reduction of staff and cost optimization

Sources: Interviews DTO Research



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Main drivers for technological development:

- Cost optimization
- Legal changes
- Creation of synergies
- Internationalization
- Competitive pressure
- Process efficiency

Top countries/regions for innovations in robotics and digitalization:



How the cleaning industry will change in the future

- The way of cleaning will change, but not so fast. Large spaces will be cleaned by robots but not everything can be automated.
- Automation will be implemented step by step, however, in 10 years cleaning will still be mostly done by humans.
- Cleaning and building infrastructure will merge slightly.
- In general, cleaning will become much more sustainable and visible.

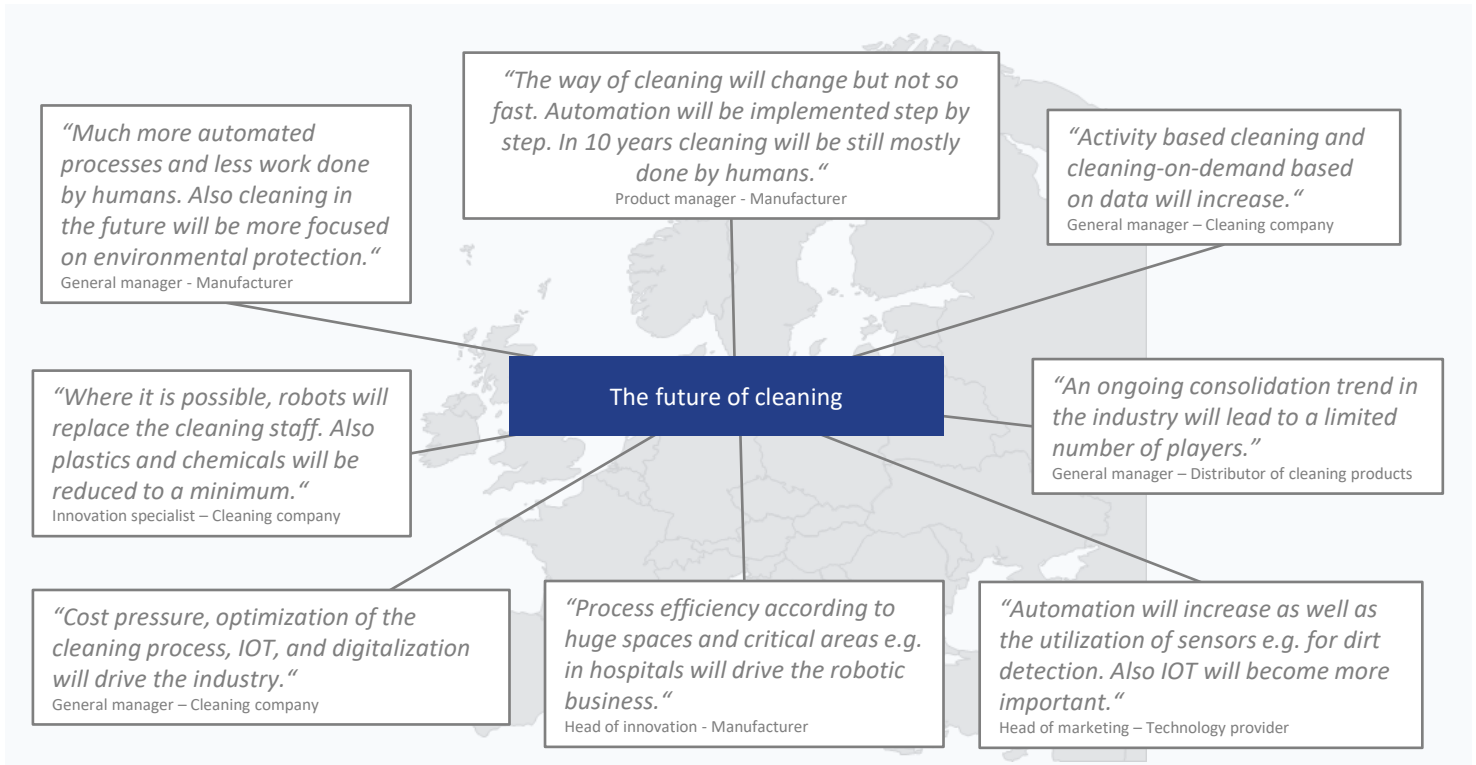
Role of Europe according to new technological developments and importance of other regions

- North America and Europe will be the main drivers of innovation in the industry, but the role of Asia is emerging very fast.
- In Asia, developments are often much faster than in Europe.
- In the past, products were often copied in Asia. Now, however, their influence has started to increase.

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Openness toward innovation



Need for innovation



Adoption rate of innovations



Need for R&D cooperation



Future importance of new technologies



Future importance of qualified cleaning staff



Key learning points for the industry

- The industry is much more open to innovation but not all industry segments benefit the same way.
- There is high competitive pressure on the manufacturers and technology providers to establish new products or services.
- Many of the developments in the past were not seen as innovations by the BSCs because the added-value and product USP were not understood.
- Networking and R&D cooperation within the industry is mentioned as essential, but a global platform for innovation is missing.
- The way of cleaning will change in the future, but how fast this will happen highly depends on cooperation of companies within and from outside the industry.
- Digitalization and robotics will be very important in future cleaning, but well qualified staff and human machine interaction are also significant success criteria.

Sources: Interviews DTO Research





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