Sustainability and Trends in the Automotive Industry – What can Surface Finishing contribute?
Perspectives of a Process Chemicals Supplier
Background – The Automotive Market is Changing

What is Sustainability
  • Definitions

What do OEMs do?
  • Regulations
  • Technology
  • Impact on Supply Chain

The contribution of Surface Finishing – Coventya Approach
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The contribution of Surface Finishing – Coventya Approach
A changing automotive world

Global trade tensions lead to pressure on demand for new cars:

Global car production – Light vehicles

Quelle: VDA

Sustainability at SYF

20.03.20 - 5
Alternative fuel powertrain installation is forecast to grow by more than 344% (+21.7 units) between 2018 and 2025. Electric and hybrid powertrains are necessary to achieve fuel efficiency targets.

Global - Electrified Powertrain Vehicle Assembly Outlook
2016-2025F (millions)
Guide

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The UN GLOBAL COMPACT

10 guiding Principles for Sustainable Development

- **Human Rights**
  - **Principle 1:** Businesses should support and respect the protection of internationally proclaimed human rights; and
  - **Principle 2:** make sure that they are not complicit in human rights abuses.

- **Labour**
  - **Principle 3:** Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
  - **Principle 4:** the elimination of all forms of forced and compulsory labour;
  - **Principle 5:** the effective abolition of child labour; and
  - **Principle 6:** the elimination of discrimination in respect of employment and occupation.

- **Environment**
  - **Principle 7:** Businesses should support a precautionary approach to environmental challenges;
  - **Principle 8:** undertake initiatives to promote greater environmental responsibility; and
  - **Principle 9:** encourage the development and diffusion of environmentally friendly technologies.

- **Anti-Corruption**
  - **Principle 10:** Businesses should work against corruption in all its forms, including extortion and bribery.
SUSTAINABILITY is more than protecting climate and environment – it is about an integral view of today's world and giving answers to all questions related to ensuring a good life basis for all human beings for the future.

Governments are implementing ever stricter regulations to ensure sustainable business practices, e.g. REACH.

Industries today try to set up processes that allow to make steps towards the 17 goals by following the 10 principles.
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The contribution of Surface Finishing – Coventya Approach
What do OEMs do?

- Regulations on social standards, etc.

- Since years OEMs have implemented clear guidelines and behavioral rules

- Example:

- These documents also include guidance for environmental sustainability

Sustainability at SYF 20.03.20 - 11
Technology

- We see a strong drive for alternative fuel technologies

- This is part of a sustainability initiative, driven by the strong public pressure that is currently evolving globally.

- But there is also a strong business driver:
Automakers are expected to introduce various fuel saving technologies while maintaining and increasing performance to be competitive.

- 95 € penalty per Gramm over the limit
- Estimation, if there are no changes in powertrain technology and fuel consumption
- Production numbers according to PWC-Forecast
What do OEMs do?

Impact on supply chain:

- Automotive OEMs have started initiatives to investigate and reduce the carbon footprint along their supply chain

- And the suppliers are following:
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- The contribution of Surface Finishing – Coventya Approach
Sustainability in Surface Finishing

- Surface finishing by its very nature, is a sustainable process

- Surface treatment extends useful life of many components in a wide variety of applications
  - Annual cost of corrosion worldwide is 3% global GDP

- Applying a very thin film on relatively inexpensive and readily available material vs the use of exotic alloys is a sustainable practice

- Surface finishing allows the use of lighter materials that improve fuel efficiency and reduce carbon footprints

(1) "Now is the Time," a paper presented by George F. Hays, PE, Director General, World Corrosion Organization.
Coventya on Sustainability

Coventya wants to contribute to sustainability in three ways:

- Optimizing internal processes
- Influencing business partners
- Providing better technology
Coventya on Sustainability

Optimizing internal processes:

- Already ten years ago Coventya has put into action group wide initiative called:

  **ECOLINE**

- This program includes a best practice approach for environmental activities in all sites

- It also includes an internal competition:
  - Every year the company with the best actions helping to save resources or improving our environmental balance receives a price.
  - The jury is constituted of top management representatives of Coventya group
Influencing suppliers and partners:

Coventya has integrated its supply chain into the Code of Conduct

- All suppliers must commit to adhere to the rules and regulations put forward in the COVENTYA CODE OF CONDUCT

- All distributors must sign on to these guiding principles

- The document reflects the principles and targets of the UN Global Compact
  - It can be downloaded on our home page: www.coventya.com
Coventya is a technology company

- Providing ever better processes to the market is what we strive for
- Since many years we are optimizing process technologies for environmental and economical best practice
- We are providing solutions in many sectors of surface finishing for the automotive industry
ZnNi Plating using 3S Technology

- Today the highest demands for corrosion protection in the automotive industry require Zn alloy deposits and especially ZnNi 12-15%

- Coventya ZnNi plating technology using 3S membrane systems is the most sustainable way of providing top class corrosion protection
  - No cyanide formation
  - No feed and bleed volumes to waste, no freeze-out
  - Up to 50% higher deposition rate
  - Energy demand per m² plated reduced by up to 50%

- COVENTYA is providing ZnNi membrane technology to the market since 2003
Coventya on Sustainability - Anodizing

- Leight weight construction is a prerequisite for the success of electro mobility
- The use of Aluminium components in car manufacturing is increasing
- New alloys are needed to fulfill engineering requirements

**ALUMAL ELOX 557**
Additive to improve anodizing process and layer performance

- Aluminum dissolution reduced
- Less acid consumption
- Less sludge in W.W.T
- Improving oxide layers in terms of uniformity, resistance and coloring
- Process time reduction
- Less sensitive to temperature, applicable at 24 °C
- Energy saving
The regulation on the use of Cr(VI) has created tremendous pressure to find alternative technologies for the treatment of decorative plastic parts.

Coventya is the only process provider today with an industrialized completely Cr(VI) free POP treatment line.

SILKEN BOND ETCH allows metallization of various ABS and ABS/PC plastics also on biinjected parts with perfect adhesion and without rack metallization.

TRISTAR 330 AF and TRISTAR SHIELD allow the deposition of Cr layers that meet design requirements and also perform according to the most stringent automotive specs.
The global automotive industry is undergoing a paradigm change

- New drive technologies
- Connectivity
- Demand for sustainable solutions

These drivers lead to new requirements for the automotive supply chain including surface finishing

Electroplating is well positioned to serve these new demands and support the automotive industry

Coventya is able to provide applicators with process technologies to meet and exceed these new requirements