



ASSOCIATION FOR
THE ADVANCEMENT
OF ALTERNATIVES
ASSESSMENT

Photo Credit: Kai Dahms

**International
Symposium on
Alternatives Assessment
Virtual 2020**

*Current Practices and
Future Prospects*

October 27-29, 2020

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State of Oregon
Department of
Environmental
Quality



Symposium Session 1 – Updates from Europe

Part I: Programs advancing informed substitution

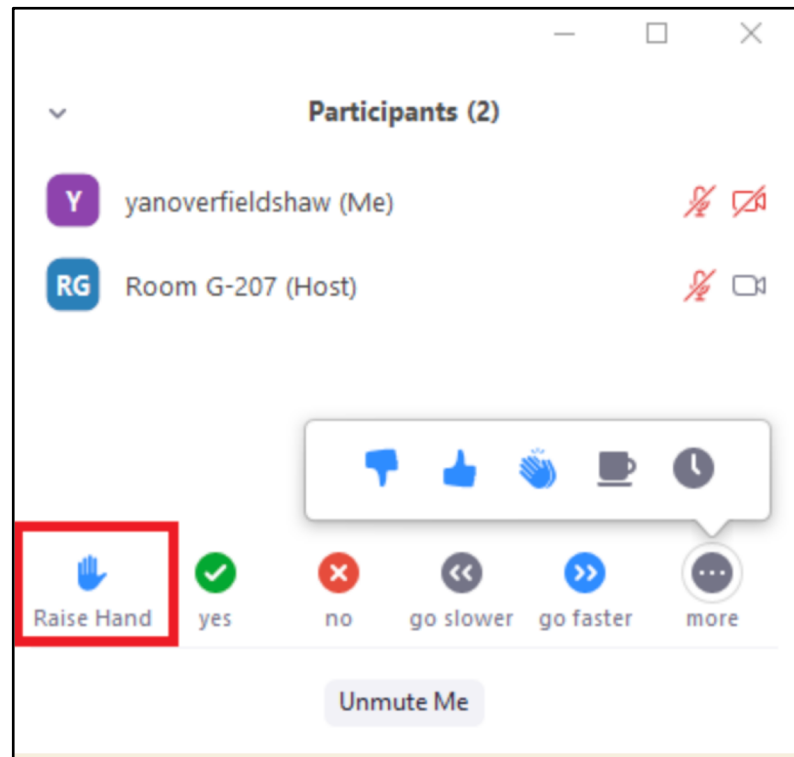
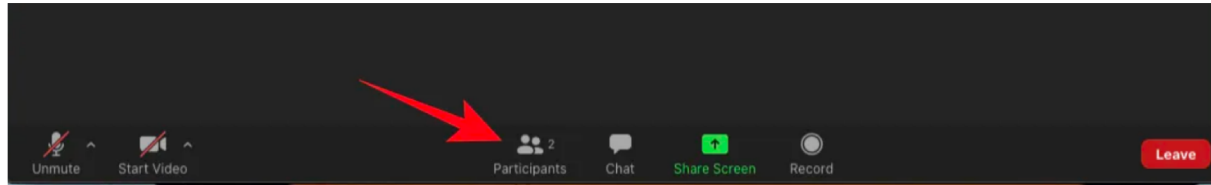
Session Context

- Europe has been a global leader in strategic policies and program to advance the substitution of hazardous substances for more than two decades.
- Over the past five years, there has been intensified attention to programs that support the evaluation and adoption of safer alternatives to more effectively achieve policy goals.
- This session features recent European Commission-level activities as well as unique efforts in individual Member States that are advancing informed substitution, including enhancing use of alternatives assessment approaches.
- Tomorrow in Part 2 of our Updates from Europe Session, we will programs and policies promoting the Safe by Design concept Europe has chartered the course for others to follow when it comes to strategic policies and programs to advance the substitution of hazardous substances.

Session Etiquette

- Please keep your **lines muted and your videos off**.
- Please make sure your **full name and organization** are noted. You can change your name by clicking on the ... next to your name/image.
- Use “**speaker view**” in Zoom – it will offer the best viewing experience.
- During the Q&A portion of the session, if you wish to ask a question or offer a comment, please raise your hand
 - Feel free to unmute your line and turn on your video so engage more voices/faces in the conversation.
 - Also feel free to use the chat.
- This session is being recorded and will be posted with the slide deck on the A4 website: www.saferalternatives.org

Raising your hand in Zoom



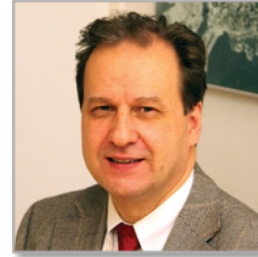
- To “raise you hand”
 - first open the participants icon on the bottom of your computer screen
 - When the participants view opens, you’ll find the “raise hand” icon in the icon list at the bottom.
 - Help us by lowering your hand (toggle the icon) when you finished with your question/comment
- The chat will work too

Moderator & Panelists



JOEL TICKNER

University of Massachusetts
Lowell



MATTI VAINIO

European Chemicals Agency's
Substitution Strategy, European
Chemicals Agency



MICHEALA CLEVER

SubsportPlus, German Federal
Institute for Occupational
Safety and Health (BAuA)



TONIE WICKMAN

Swedish Centre for Chemical
Substitution

International Symposium on Alternatives Assessment 2020

Symposium Session 1 - Updates from
Europe Part I: Programs advancing
informed substitution

27 October 2020

Matti Vainio
Head of Risk Management Unit II
European Chemicals Agency



European Chemicals Agency

- EU Agency operating in Helsinki since 2007
- Implements European legislation related to chemicals
- 650 staff from 28 countries

Our competences:

Data management

Assessment of chemicals

Risk management of chemicals

Impact analysis of chemicals



European Green Deal (December 2019)



Make the EU's economy sustainable

- No net emissions of greenhouse gases by 2050
- Economic growth is decoupled from resource use
- No person and no place is left behind

Several actions

- Zero pollution ambition for a toxic-free environment
 - ✓ Chemicals strategy for sustainability

Substitution in EU Chemicals Strategy for sustainability (14 October 2020)



Innovating for safe and sustainable EU chemicals

Safe and sustainable-by-design (S&SbD)

- ✓ development of S&SbD criteria for chemicals
- ✓ set up of an EU-wide S&SbD support network
- ✓ financial support to companies for S&SbD projects
- ✓ competence building in education, research, industry, regulators;

Non-toxic material cycles: minimise substances of concern in products

Innovating industrial production: novel and cleaner industrial processes

Strengthening EU's open strategic autonomy: sustainable chemicals value chains

Stronger EU legal framework

Regulatory initiatives for protection against most harmful chemicals

ECHA's substitution strategy (January 2018)

- Promote best practice in alternatives assessment, substitution and mind-set change
- In support to regulation
 - ✓ Authorisation of substances of very high concern (> 300 alternatives assessments)
 - ✓ Restrictions (about 30 alternatives assessments)
 - ✓ Classification, Occupational Exposure Limits, etc.
- Substitution as part of innovation
 - ✓ Creates business opportunity
 - ✓ Has environmental and health benefits
- Collaboration with stakeholders is essential





Capacity building



Facilitating access
to funding and
technical support



Facilitating the
use of ECHA's
data for sustain-
able substitution

Substitution networks



Focus for 2020-21

Capacity building

Networking of stakeholders on substitution issues

In the longer term, continue also working on:

- ✓ Facilitate access to research funding and technical support (collaboration with the European Commission)
- ✓ Facilitate comparative assessment for the biocidal products

...adjusted to available resources...

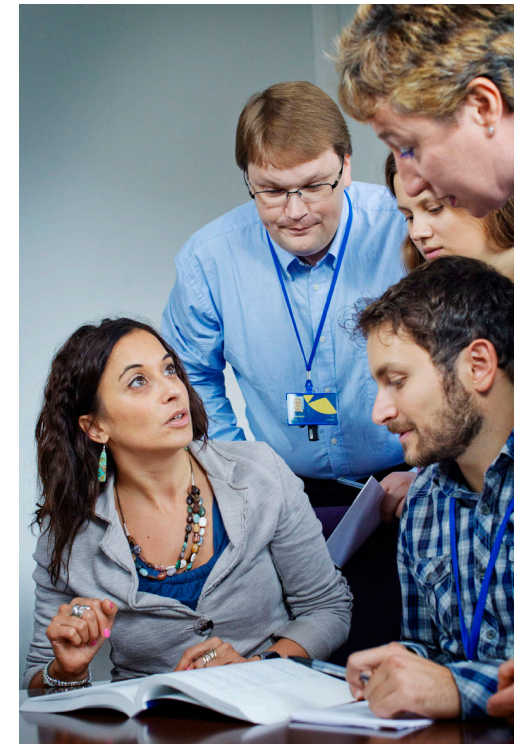
Capacity building

Supply chain workshops

Industry actors to discuss substitution options, e.g. in relation with Authorisation and Restriction

- Gathers substance users, providers of alternatives, products end-users, retailers, R&D and financial support

Online training on alternatives assessment and substitution



Boosting sustainable innovation in the EU

EU and national innovation funding programmes

Horizon 2020, LIFE...

Swedish Centre
for Chemical
Substitution

Substitution
support portal
Subsportplus

Platform for buyers and
sellers of alternatives
ChemSec Marketplace

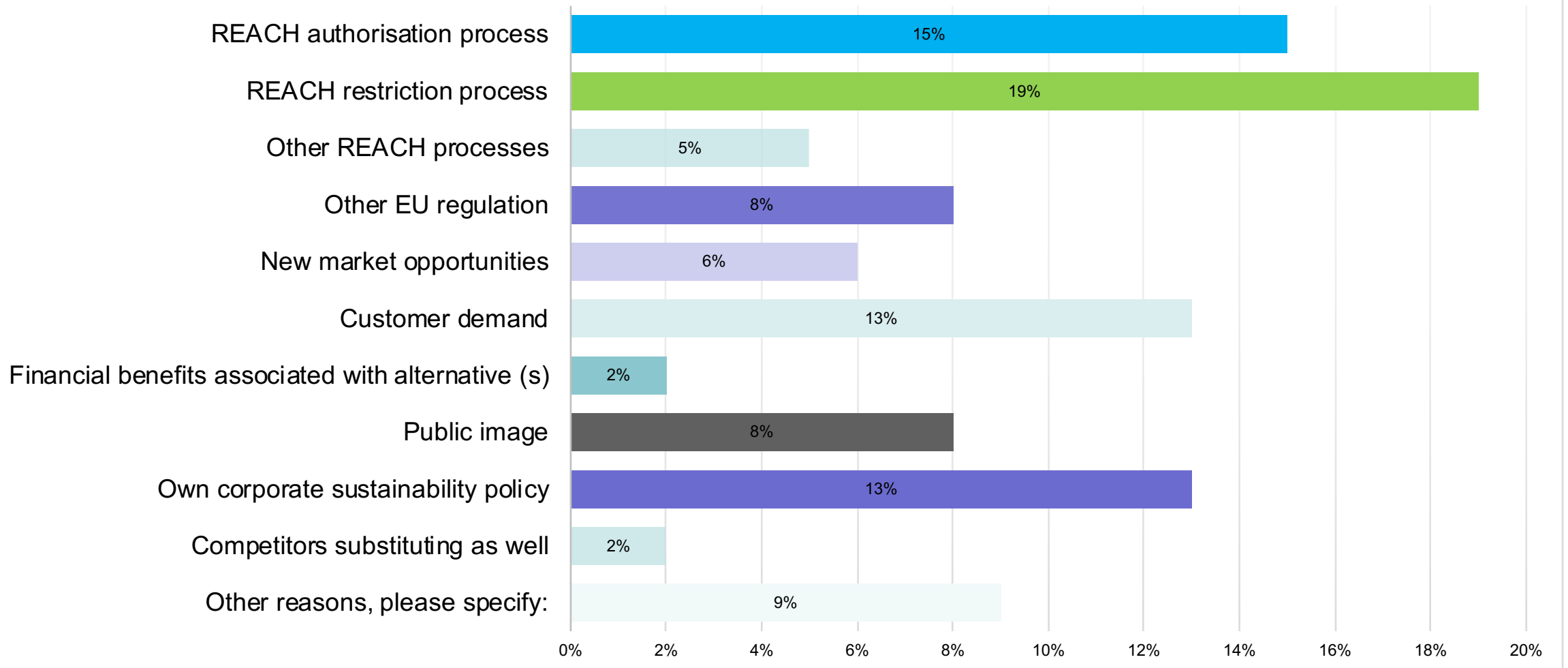
Enterprise
Europe Network

Textile industry initiative
Zero Discharge of Hazardous Chemicals



Regulation drives substitution

What were the drivers for substitution?
(Number of respondents: 81 ; n=265)



Source: Study on impacts of REACH authorisation and restriction on substitution, ECHA 2020
echa.europa.eu



Example of substitution driven by Authorisation



Murano Glass
(Venice, Italy)

Italian government funded research leading to discovering of safer alternatives to **arsenic trioxide**. Substitution:

- safer alternatives
- process changes and
- some glass types not manufactured

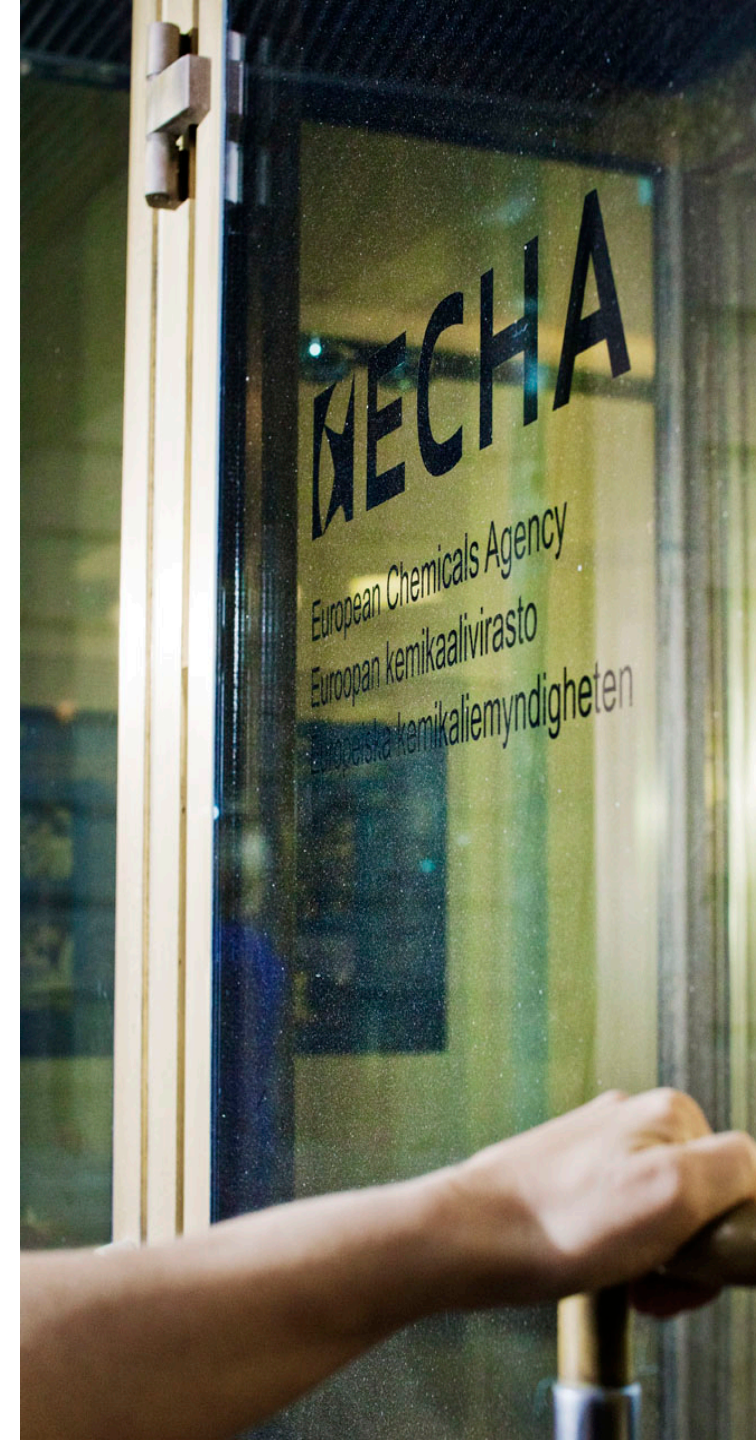
Result

Arsenic concentrations in Murano air dropped by **98%** (from 200 ng/m³ in 2014 to 4 ng/m³ in 2016), which is below the EU target limit of 6 ng/m³.

Did not apply for authorisation.

Take home

- REACH: main driver for chemicals substitution
 - ✓ Restriction & Authorisation and other legislation
- EU Chemical Strategy: Safe and sustainable-by-design
 - ✓ Criteria, networking and funding (Horizon 2020 has €80bn)
- ECHA's substitution strategy: catalyst
 - ✓ Networking, capacity building and getting actors in supply chain to reduce barriers to substitute
- Corporate sustainability commitments of innovative multinationals can be influential



Thank you!

matti.vainio@echa.europa.eu

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Additional information

Substitution supply chain workshops in 2017-20

- [Chrome plating](#)
Finland, January 2017 and January 2019
- [Flame retardants in home textile](#)
Belgium, 16 January 2018
- [Durable water and oil repellents in textile](#)
Belgium, 5 June 2018
- [Antifouling paints in recreational boats](#)
the Netherlands, 5 October 2018
- [Chrome plating](#)
Germany, 14 January 2019
- [Bisphenols in thermal paper](#)
Belgium, 26 March 2019
- [In can preservatives/chromates/cleaning-chemicals](#)
Wien, 30-31 January 2020
- [Substitution in textiles](#)
Paris, tbd 2020

Online training on alternatives assessment

Intended for a range of analysis of alternatives practitioners – both new and experienced – working in authorities, industry and NGO organisations

- Introduction – Makes the case for informed “substitution thinking” and introduces the training
- S1: Scoping the assessment
- S2: Identifying and screening alternatives
- S3: Hazard and exposure
- S4: Cost and technical performance
- S5: Making and implementing decisions

<https://echa.europa.eu/online-training-on-analysis-of-alternatives>



Swedish Centre for Chemical Substitution

A4 Virtual Symposium, 27 October 2020

Margot Wallström, European Commissioner for the Environment 1999–2004

- Pushed for a European Chemicals legislation – the REACH regulation
- Swedish Environmental Law: precautionary, product choice and polluter pays principles
- Environmental Goal: a non-toxic environment





Chemical tax on certain electronics

- Since 2017
- On electronic goods that contain harmful flame retardants.
- Under evaluation

Business and supply chains are global and complex



Substitution i Centrum

– stärkt konkurrenskraft med kemikaliesmarta lösningar

*Betänkande av Utredningen om
Centrum för ökad substitution av farliga ämnen
i kemiska produkter och varor*

Stockholm 2017



Swedish Centre for Chemical
Substitution

Initiative funded by the Swedish
Government

... transfer
knowledge and give good
examples on substitution

... to inspire and motivate
industry, companies and
the public sector to
substitute substances
classified as hazardous

... collaborate and function
as a node in Sweden



RI.
SE



RESEARCH INSTITUTES OF SWEDEN




The Swedish research
institute and innovation
partner for every part
of society



"RISE will be part of
the solution, a catalyst
in the development
of new sustainable
solutions."

Pia Sandvik, CEO, RISE



Testbeds and
demonstration
environments



New **solutions**
for a sustainable
future

This is the Swedish Centre for Chemical Substitution



ANNA JACOBS

Manager



TONIE WICKMAN

Advisor



NINA MELANDER

Advisor



ANNA STRID

Advisor

Peak Performance free of PFAS by 2022

As a manufacturer of activewear, Peak Performance is highly familiar with fluorocarbons – both their unrivalled water repellency and the adverse impact they have on health and the environment. In 2016, Peak Performance made the decision to completely eliminate fluorocarbons (also referred to as PFAS chemicals) from their range of products within 6 years. Åsa Andersson, Sustainability and Quality Manager at Peak Performance, tells us more about how the company is achieving this goal.



“How many of our products actually contain fluorocarbons?” This is the question that got everything started four years ago, when Åsa Andersson and her colleagues at Peak Performance formulated a plan for phasing out fluorocarbons from their products. They subsequently discovered that as much as 45 percent of the range had a water-repellent coating and that a large proportion of these contained fluorocarbons. The goal they set was for the company to be completely free of fluorocarbons by 2022. Up to now, the use of fluorocarbons has been phased out by 85 percent.

Centre for Chemical Substitution

- About us +
- Guidance
- Events and workshops
- News

Inform about alternatives and good examples of substitution



Substitution platform at RISE

- Chemical substitution requires cross-functional teams
- Mapping of RISE internal competences
- Competence enhancing activities - raise RISE capacity in informed substitution/
Alternatives assessment

To enable and promote the expansion of a safe, sustainable and green industry in Sweden

- **Early prediction and verification of hazardous properties**
- **Life Cycle Assessment**
- **Materials Management**
- **Educational material and courses**
- **Case studies for specific design, production and recycling processes**



Alternatives Assessment

Projects, for example the popfree-project

Thanks!

Tonie Wickman

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www.substitutionscentrum.se

Relaunch of the Substitution Support Portal- SUBSPORTplus

International Symposium on Alternative Assessment 2020
Updates from Europe Part I: Programs advancing informed
substitution

Dr. Michaela Clever

Federal Institute of Occupational Safety and Health (BAuA),

Division 4, Unit 4.6

27th of October 2020

BAuA

Federal Institute for Occupational Safety and Health

Governmental research institution subordinated to the German Federal Ministry of Labour and Social Affairs

Department 1

Policy Issues and Programmes

Department 2

Products and Work Systems

Department 3

Work and Health

Department 4

Hazardous Substances and Biological Agents

Department 5

Federal Office for Chemicals

Department 6

Transfer Management

DASA

Working World Exhibition



Dortmund



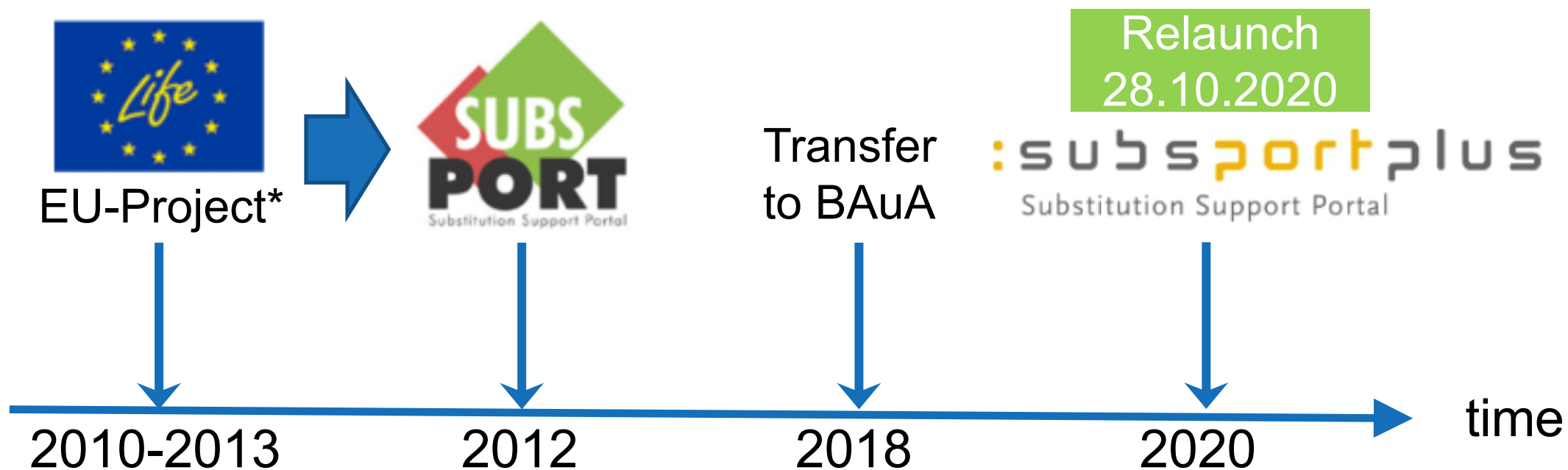
Berlin



Dresden



SUBSPORTplus: Development & Relaunch



*LIFE08 ENV/D/000027,
more information here: <http://www.subsportplus.eu/about-the-portal/subsport-project>



<https://www.subsportplus.eu/>

- Assistance with substitution
 - Case Stories
 - Methods of substitution and tools
 - Substance information
- Network
- Support initiatives regarding substitution



CASES



- Database of case stories
- Case studies
- Information on cases and alternatives

+ Updates
+ New search filter

SUBSTANCES



- Database with hazardous substances (35 lists: international, governmental, NGO, company lists)
- Criteria how to identify substances of concern

>26.900 Entries,
+ Property of Concern

PROCESS



- Systematic approach of substitution
- Detailed description of substitution tools
- Help for comparison and assessment of alternatives

+ New Tool

CASES



370 case stories of successful substitution

- Available in English and German (~90 cases)
- Quality checked according to SUBSPORTplus methodology
- Content, i.e.:
 - Information on use (process, sector, function, product category)
 - Substance information
 - Hazard assessment
 - State of implementation
 - Information on supplier, alternative

+ 180 cases updated,
currently integrated
+ Extension planned

REGULATION



- Structured presentation of 26 legal regulations regarding substitution (EU, international conventions, US, China)

+ Updates

GOOD PRACTICE



- Assistance and information about the safe use of substances, which are currently not replaceable

Under construction

GOOD
PRACTICE



- Assistance and information about the safe use of substances, which are currently not replaceable

Under
construction

- Substance-specific guidelines, e.g.
 - Chromtrioxide
 - NMP
- Product-type guidelines, e.g.
 - Biocides
 - Chemicals for construction

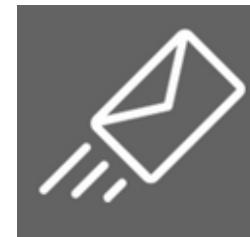
- Continuous update of information
 - Plus feature: Good Practice
 - Case story database
- Extension of case story database
 - External contribution
 - Own research projects on substances
- Supply chain dialogue workshops
- Substitution network

Thank you for your attention!
Questions, Feedback?

Visit: <http://www.subsportplus.eu/>

:subsportplus
Substitution Support Portal

Contact: SUBSPORTplus@baua.bund.de



Panel Discussion

Questions? Comments?

- Please raise your hand [click on the participants icon on the bottom banner] or post in the chat.
- When called on, please unmute your line and turn on your video so we can better converse together.
- Remember to re-mute and turn off your video.

Up Next After 30-Minute Break

Symposium Session 2 – Industry Experience Implementing Alternatives Assessment and Substitution

Part I: Lessons learned from large multi-nationals

Moderator: Cory Robertson, Hewlett-Packard

Panelists:

- Kaj Johnson, Method
- Dhruv Raina, Tarkett
- Joel Tenney, Israeli Chemicals

Use Zoom Link for Session 2 [requires registration]

Thank You Sponsors



State of Oregon
Department of
Environmental
Quality



**Thank you for
joining us!**

