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HOCHSCHULE DARMSTADT
UNIVERSITY OF APPLIED SCIENCES

s:ne

SYSTEM INNOVATION FOR
SUSTAINABLE DEVELOPMENT

IT Tools and Governance for Traceability

Workshop #1 | Subproject 2 | Julian Schenten / Eleni Kaluziak | 13.10.2020

Julian Schenten / Eleni Kaluziak
sne.h-da.de/leather-chemistry/
Darmstadt University of Applied
Sciences

**Innovative
Hochschule**



German
Science
Coordination
Office



Agenda

1. Introduction: Participants and project scope
2. Specific objectives
3. Working structure

More sustainable chemistry in the leather supply chains

- ▶ Duration 2018-2022
- ▶ 54 Persons
- ▶ ca. 10 Mio € Budget



Environmental Engineering

Legal Sciences

Economy



Chemical Engineering & Biotechnology

Design



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HOCHSCHULE DARMSTADT
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s:ne

SYSTEM INNOVATION FOR
SUSTAINABLE DEVELOPMENT



h_da research on
traceability



proactive
alliance



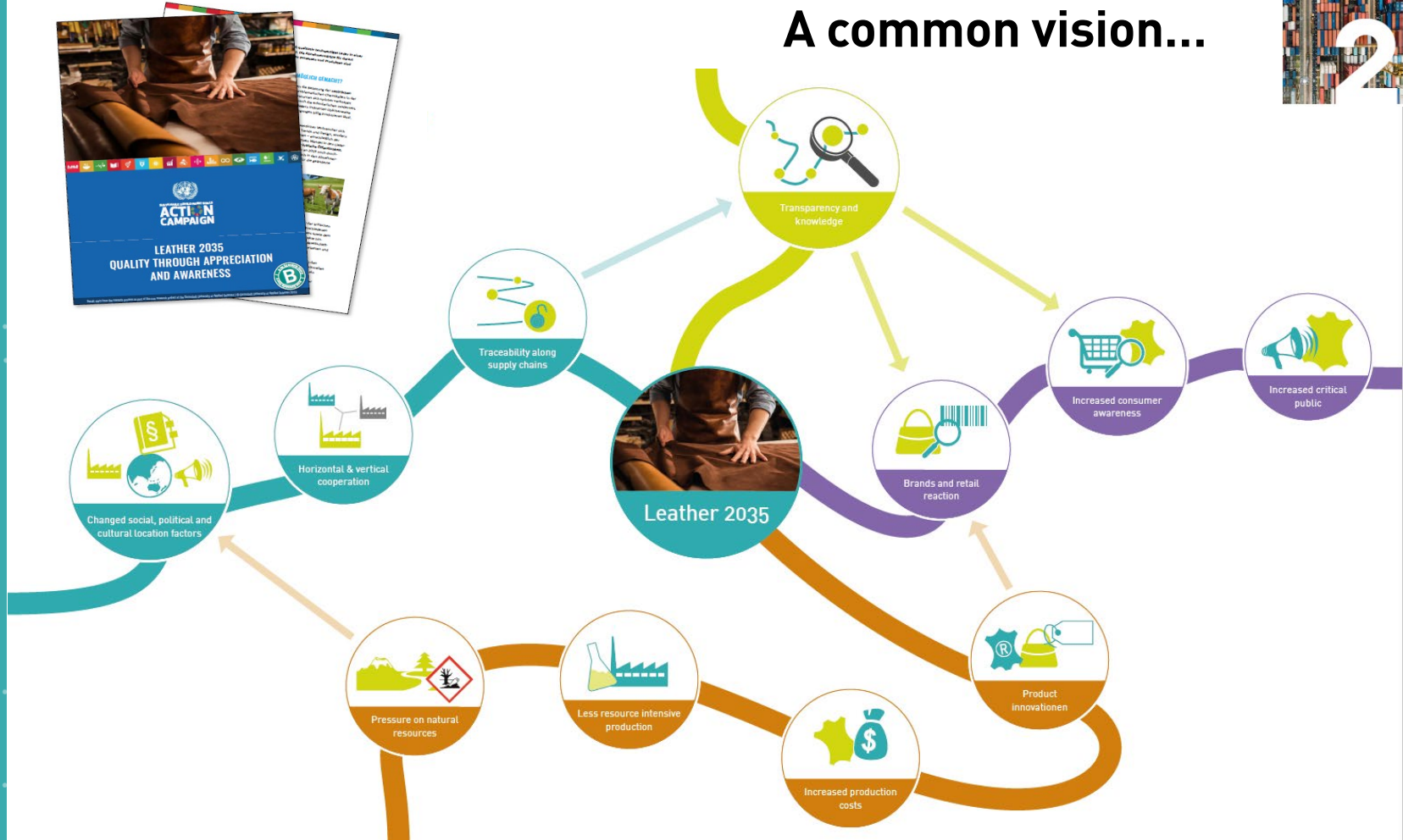
Citizen's panel

1066 registered
Participants



s:ne aims to help the leather industry make the transition to a more sustainable chemistry.

sne.h-da.de/leather-chemistry/



Leverages for more sustainable leather chemistry



1 Harmonisation of Standards



2 IT Tools and Governance for Traceability



3 Chemicals and Prozess innovation



4 Leather Design Guidelines for Sustainable Development

Outcomes 1

	Normative impulses
	More active critical public

	Structural system optimization and corresponding business models
	Process innovations
	Industry-wide governance structures for traceability
	Vertical and horizontal cooperation
	Capacity building in production countries

	Changed product development processes (towards SD)
	Changed purchasing behaviour (sourcing towards SD)

	Raising consumer awareness
	Product and information services at the point of sale

Outcomes 2

	Improved working conditions in third countries
	Enforcement

	„Cultural change“ in the supply chains
	More sustainable production methods

	More sustainable products
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	Changing consumption patterns
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Impact



Establishing a „more sustainable“ chemistry in the leather supply chains

Definition: Traceability...

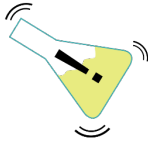


- *... "is understood as "the ability to trace the history, application or location of an object" in a supply chain (ISO, 2015).*
- *In this context, it is defined as the ability to identify and trace the history, distribution, location and application of products, parts and materials, to ensure the reliability of sustainability claims, in the areas of human rights, labour (including health and safety), the environment and anti-corruption (UN Global Compact 2014); and*
- *"the process by which enterprises track materials and products and the conditions in which they were produced through the supply chain" (OECD, 2017). "*

Subproject focus









Traceability of chemical substances along the supply chains
Know what substances are in your products (and processes)

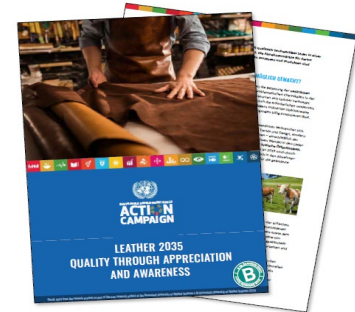


Data basis provided by suppliers
Facilitated by IT tools and governance framework

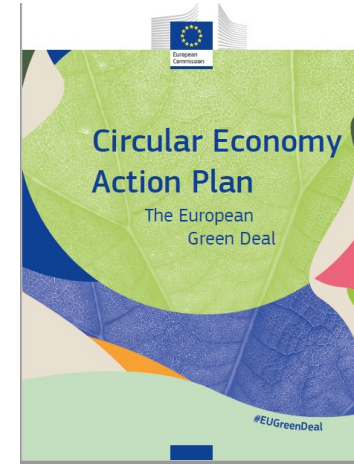
specific scope tbd

Why traceability of chemical substances? (1)

-  Ensure legal compliance today and tomorrow
-  Enhance risk management, and of supply chain processes
-  More informed product design
-  Substantiate green claims (consumers, investors, NOGs)
-  Allow for trustful transparency
-  New business models



Degression 1: Policy initiatives in Europe



Digression 2: Consumer willingness to pay?

„How much would you be willing to pay for leather shoes similar to those pictured here?“



Conventional production [n=380]

98,45 €

Environmental friendly and save production [n=396]

131,42 €

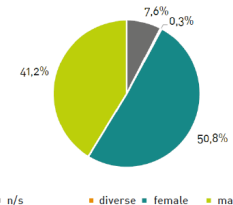
Environmental friendly and healthy production & hide traceability [n=397]

145,82 €

Full results soon at

sne.h-da.de/leather-chemistry/

Gender



Sample size: 577

Age: 47.73 (SD= 13.63)

Nationality: 90,2 % German

Region: Darmstadt-Dieburg

Period: April - June 2020

Why traceability of chemical substances? (2)



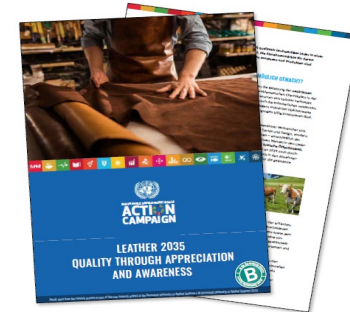
Motivator and facilitator for brand/retailer investments



Solutions must pick up frontrunners/SMEs where they stand



High usability and interoperability of solutions



Interlinks with selected other initiatives



Audits ability of tanneries to trace hides back to slaughterhouse



Chemicals Gateway „white list“ of MRSL compliant mixtures



Traceability of (all) chemical substances: [complementing](#)



Traceability systems recognized by LIA focus on hides



Traceability for Sustainable Footwear. “Blockchain” pilot

Q&A

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Steps of this 2-hour workshop

Agree on specific objectives

Draft working packages

Draft agenda for coming two years

Long-term goal: Sector-wide standard

The increased **transparency and knowledge** in the various steps of the supply chain regarding the use and effects of chemicals in the processes as well as the end product also had a decisive influence on the changed consumer behaviour as well as on the possibilities of the critical public. This development made it possible for the consumer to perceive the critical aspects sufficiently. Brands and retailers responded to these societal developments and developed measures that enabled consumers to track supply chains and ingredients objectively.

IT Tools and Governance for Traceability

Subproject 2 | Dr. Julian Schenten

In addition to increased **transparency**, regulation was also an important impetus for the **traceability of** chemicals in products and processes along the global supply chains. **Digital instruments** made traceability possible at an acceptable bureaucratic burden. It increased the incentives for producers worldwide to invest in cleaner products and technologies through regulation and customer demands, but also to ensure a high **quality of raw hides** through appropriate measures already in the rearing of animals.

Traceability was also made possible by the increasing role of **organisational innovation**. Encouraged by the legal frameworks, companies cooperated along the supply chains, both horizontally and vertically, as well as across continental borders, and increasingly exchanged information.



1. What should be the goal in this project on IT Tools and Governance for Traceability?

transparent
sustainable bus model practical
collect existing tools
ensuring industry support
identify missing tools
find missing functions
objective

What aspects do you find especially relevant with regards to IT Tools and Governance for Traceability?

Mentimeter

easy to use
zdhc gateway
wide adoption
scaleable framework
harmonisation
userinterface
available technology
zdhc
connect to exist tools
accessibility
gateway by zdhc
easy to understand
inclusiveness
comprehensible
low complexity
reasonable

Task 1 *Specific Objectives of the subproject (Proposal)*



Specific objectives

Identify chemical processes

Translate into IT tool along supply chain

Early pilot test

Initiate sector wide dialogue to define rules

Identify incentives and impediments of actors



Research questions

What information is needed?

Which technologies are (not) available?

Which additional structures are needed?

What are the requirements for IT tools?

Which framework conditions (governance) support traceability?

Team-up in breakout sessions

20 minutes

Facilitators: #1 Julian

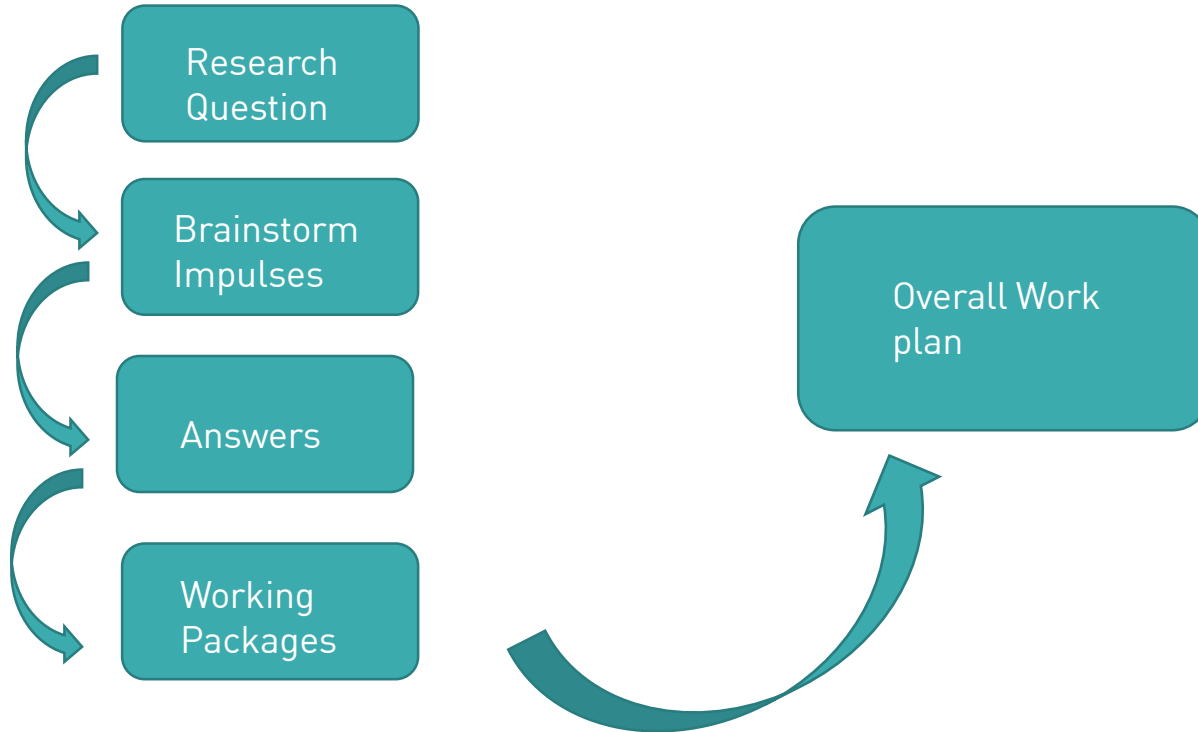
#2 Eleni

#3 Karen

Agenda

1. Introduction: Participants and project scope
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Working Structure



Task 2 *Draft Work packages for research questions*

1. What information must be passed on along the leather supply chain?
2. Which technologies (hardware / software) are available (or required) to enable traceability along the leather supply chain?
3. Which structures and processes (organisational and inter-organisational measures, links between existing systems, technical standards) have to be established to allow for traceability?
4. What are the requirements for IT tools, which information must be collected and presented in which way?
5. Which framework conditions (governance) support / guarantee traceability along the leather supply chains?

Task 2 *Draft Work packages for research questions*

IDEA KILLERS...

REASONS WHY CREATIVITY AND INNOVATION DON'T FLY IN YOUR ORGANISATION

Yes, but... It already exists! Our customers won't like that!

WE DON'T HAVE TIME... **NO!** It's not possible...

It's too expensive! Let's be realistic... **That's not logical...**

We need to do more research... THERE'S NO BUDGET...

I'm not creative... We don't want to make mistakes...

The management won't agree... **GET REAL...**

It's not my responsibility... It's too difficult to master...

THAT'S TOO BIG A CHANGE...

The market is not ready yet... **Let's keep it under consideration...**

It is just like... The older generation will not use it...

WE ARE TOO SMALL FOR THAT...

It might work in other places but not here...

SINCE WHEN ARE YOU THE EXPERT?... That's for the future...

There are no staff members available... **IT IS NOT SUITABLE FOR OUR CLIENTS...**

Move to miro

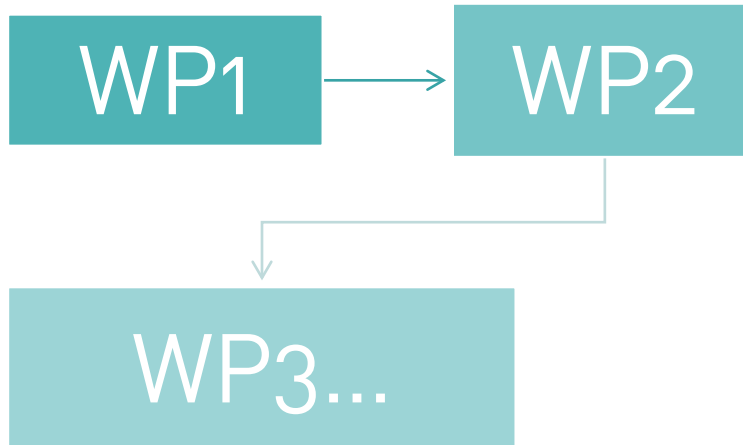
15 minutes

To Do's

Would you be happy to have more time with the miro?

In the next 3 weeks you will receive a consolidated draft project plan

- Please review this document within 14 days
- Next Workshop will be in December / January (doodle follows)



Any thoughts concerning this workshop or the project in general?

sne.h-da.de/leather-chemistry/



Subproject #1

Harmonisation of standards for a “more sustainable” leather chemistry

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Subproject #2

IT Tools and Governance for Traceability

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Subproject #3

Chemical und Process Innovation

Prof. Dr. Frank Schael | frank.schael@h-da.de



Subproject #4

Leather-Design-Guidelines for Sustainable Development

Dr. Jonas Rehn | jonas.rehn@h-da.de