

Alternative approaches for GMO traceability

International Conference GMO Analysis And New Genomic Techniques

Dr. Jenny Teufel | Berlin, 2023/03/16

Research project "Traceability of GMO products"

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- carried out jointly by
 - Öko-Institut
 - Environment Agency
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Agenda

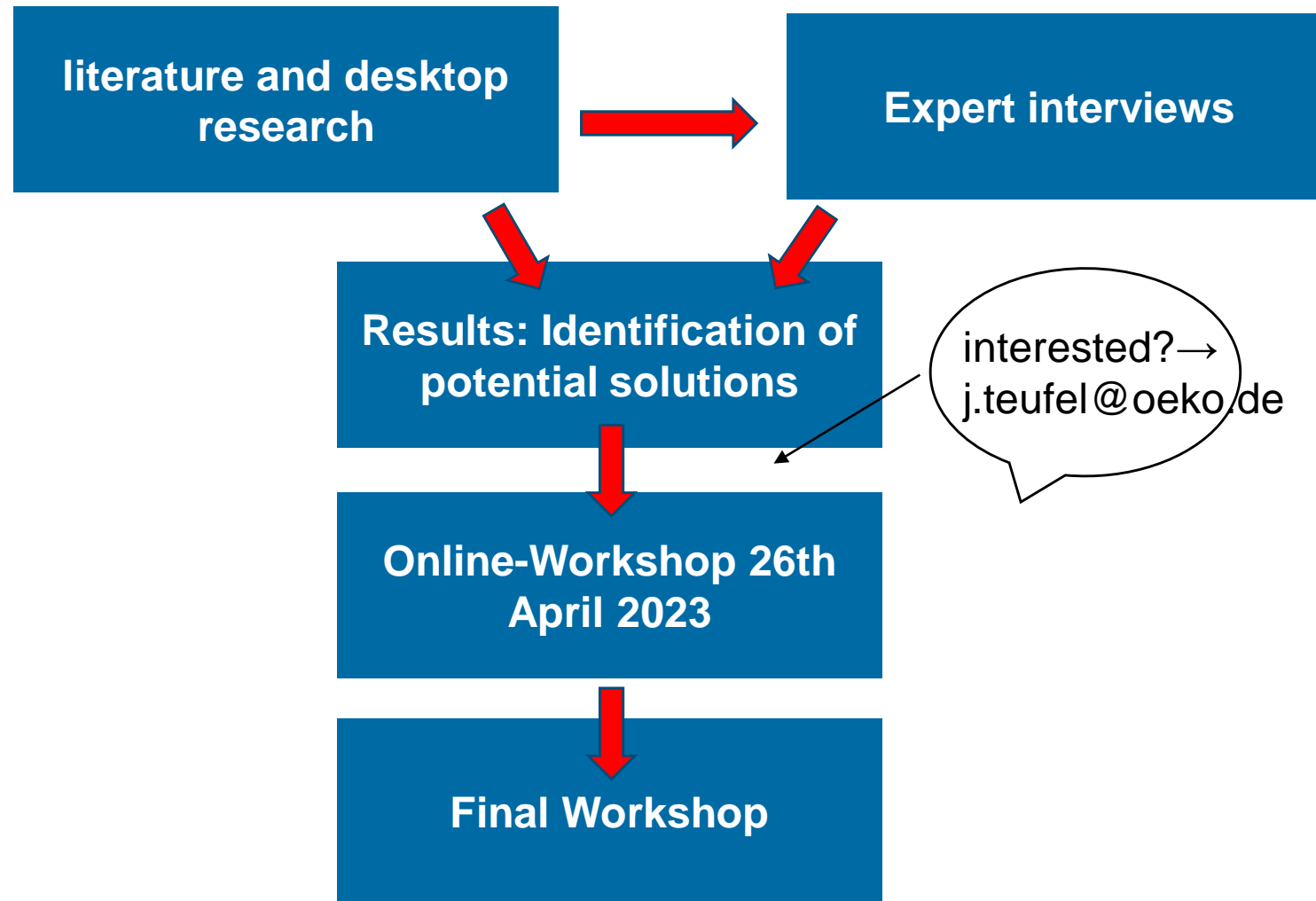
- Background: „Why it is important to think about alternative approaches for GMO traceability?“
- Methodological approach
- Definition of the term „traceability“
- How is traceability currently implemented in global agribusiness chains (GMO chains and non-GMO chains)?
- Regional legal requirements for the traceability of imports in which due diligence requirements exist
- First conclusions with regard to traceability of GMO developed with nGT?
- General Conclusions

Why it is important to think about alternative approaches for GMO traceability?

- There exist different regulations worldwide for GMO
- EU:
 - GMOs must be labelled accordingly
 - may only be cultivated or imported after a corresponding market authorization → need for controls
- an increasing number of GMOs developed using new genetic engineering (NGT) methods can be expected on the market in the future
- In many countries, GMO produced by NGTs are deregulated and accordingly do not undergo any or only very restricted approval procedures → information available for the development of an analytical detection method is limited



Methodological approach



What means traceability? A definition for traceability

DIN EN ISO 9001:2015 Quality Management Systems – Requirements

This DIN standard is a globally recognised standard that generally defines requirements for effective quality management in a company.

With regard to the term "traceability", the standard states "...organisations clearly have to identify their products and services with appropriate tools as long as it is necessary to ensure their conformity, and have to store all information on the documented results in order to ensure traceability. ...The functionality of a traceability system requires that the flow of information is linked to the physical flow of goods."



Chain-of-custody system

The existing traceability system for GMO



The image shows a rectangular label with a green border. On the left is the CBD logo, a stylized green plant with the letters 'CBD' below it. To the right of the logo, the text 'MON-00810-6' and 'YieldGard™ maize' is displayed. Further right is a standard 1D barcode. Below the barcode is the URL 'http://bch.cbd.int/database/record.shtml?documentId=14750'. At the bottom of the label, a line of text reads: 'Read barcode or type above URL into internet browser to access information on this LMO in the Biosafety Clearing-House © SCBD 2012'.

MON-00810-6
YieldGard™ maize

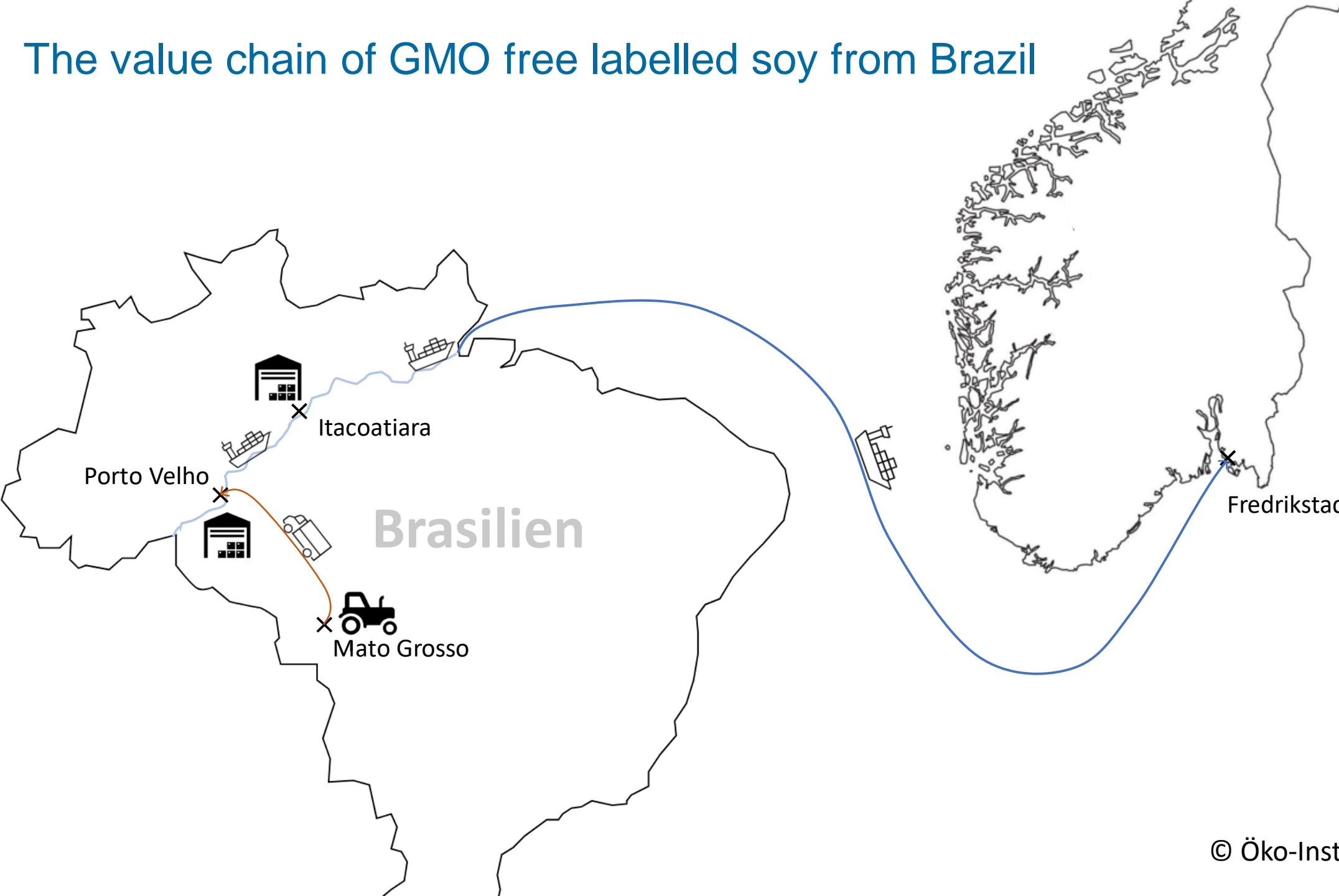
<http://bch.cbd.int/database/record.shtml?documentId=14750>

Read barcode or type above URL into internet browser to access information on this LMO in the Biosafety Clearing-House © SCBD 2012

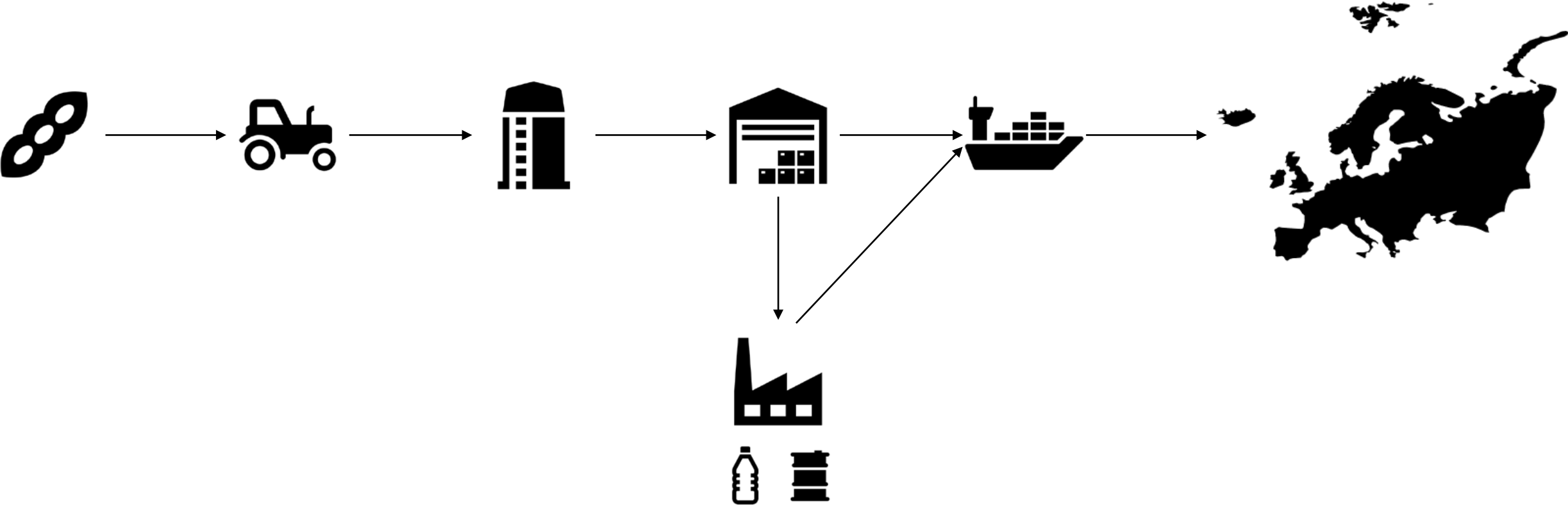
Share of GMO varieties in total production of selected countries

agricultural product	share	country
soya	100%	Argentina
	96%	Brazil
	95%	Canada
	99%	Paraguay
	ca. 50 - 65 % of the exports	Ukraine
	94%	USA

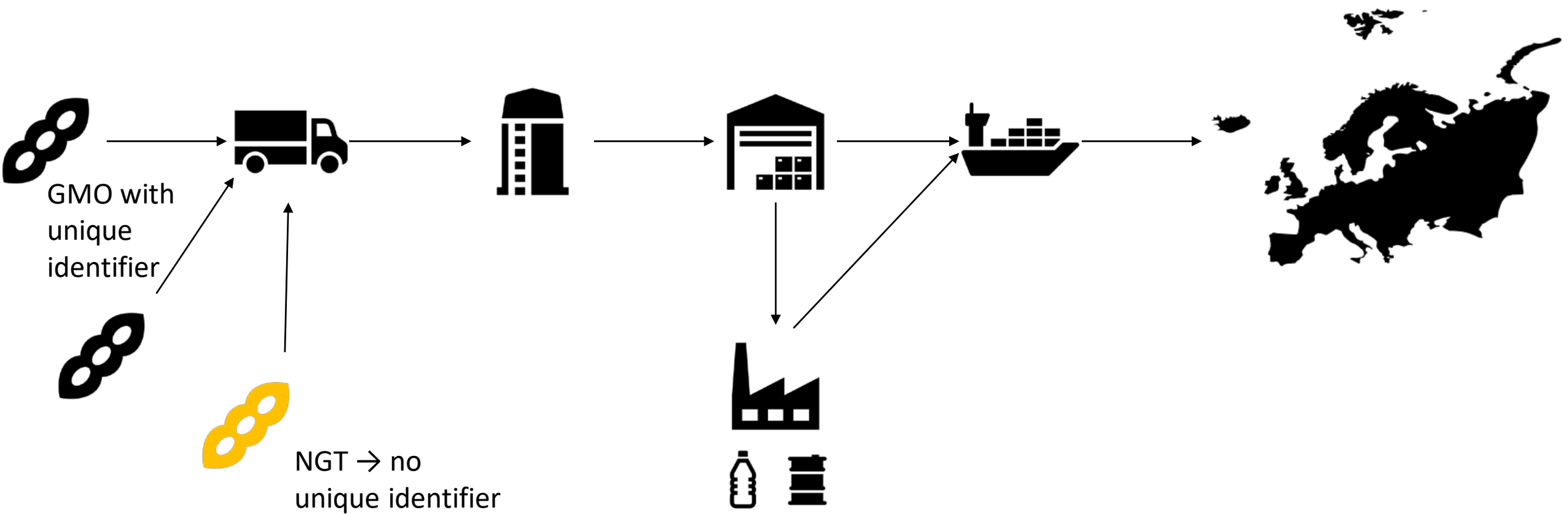
The value chain of GMO free labelled soy from Brazil



Documentation and archivation of all relevant information to traceability along the entire value chain



What is the problem with NGT in a country where NGT are deregulated?



How could control be strengthened?

- information on new GMOs coming onto the market should be provided constantly on a mandatory international level
- information on countries of cultivation of GMOs (including GMOs produced with NGT) should be provided constantly on a mandatory international level
- Information on import and export data of relevant crops should be provided and constantly updated

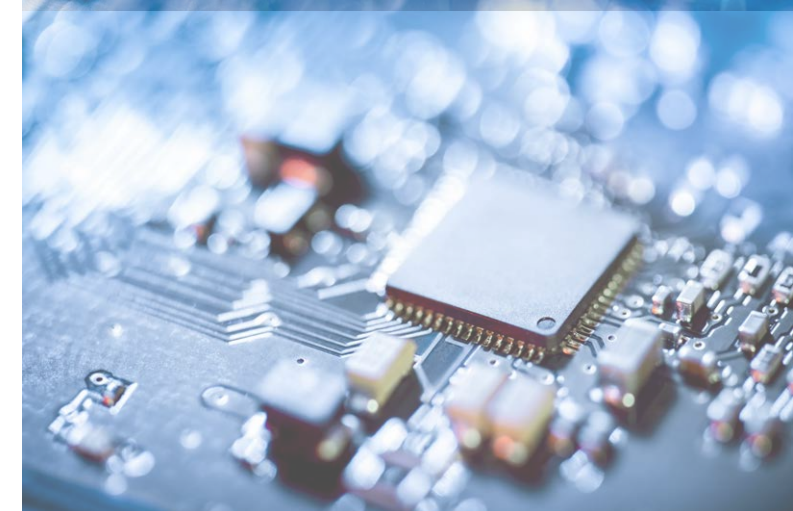
Examples of existing due diligence regulations

See following existing due diligence regulations in relation in relation to imports of conflict minerals, as well as timber and timber products:

- The EU Conflict Minerals Regulation 2017/821
- The EU Timber Regulation (EUTR)

Both regulations have the fundamental objective of combating trade in illegal products or products that have been produced in violation of human rights. Both regulations focus on the creation of transparency in the value chains.

- See also upcoming EU regulation for deforestation free products



Key Conclusions

- We already have regulations that have the fundamental objective of combating trade in illegal products
- More transparency of global agricultural value chains is necessary in order to achieve our globally adopted sustainability goals