



Operation of field trials and follow up activities to test functionality of technologies to improve quality, safety and traceability in fish supply chains

Tómas Hafliðason

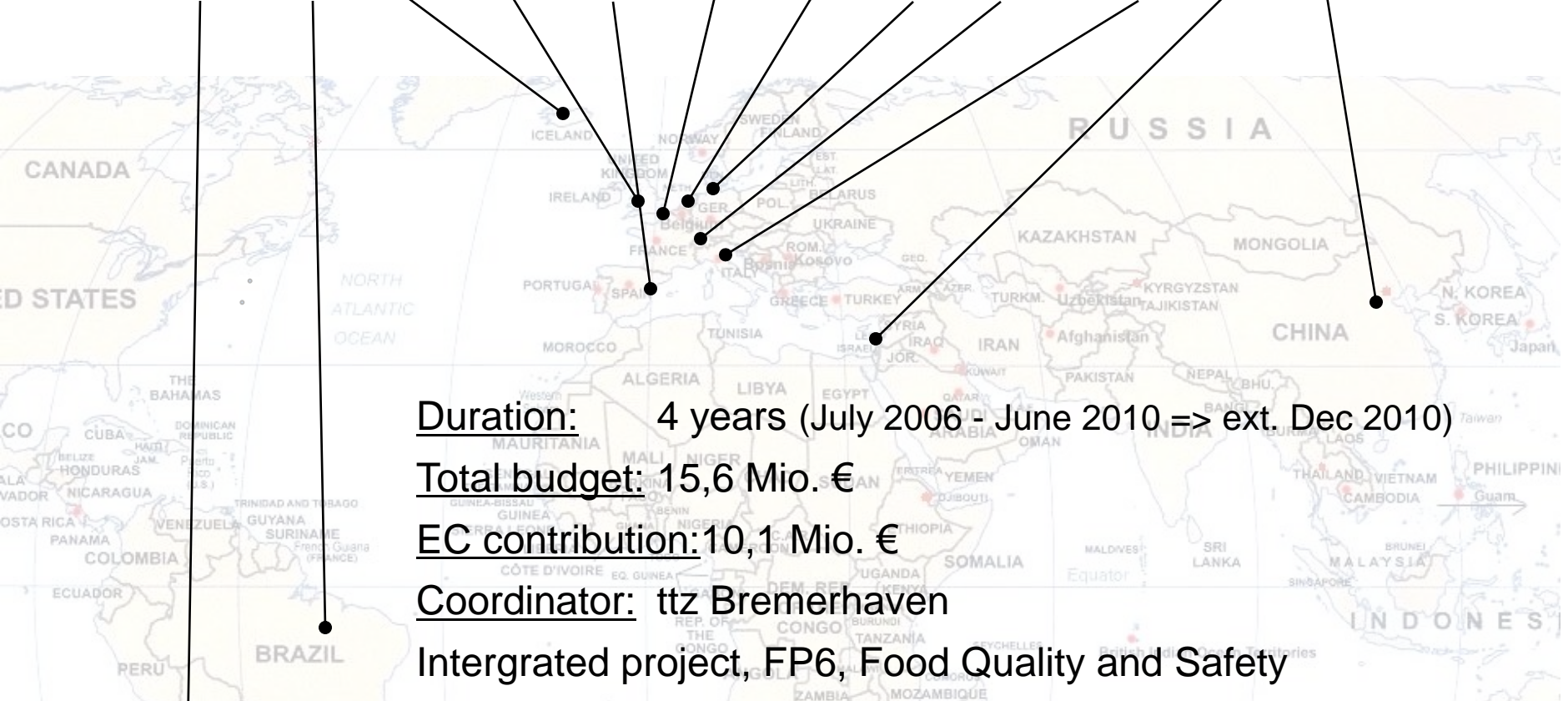
Field trial operator, CHILL-ON



4th International Workshop "Cold-Chain-Management"

September 27-28, 2010, Bonn, Germany

- CHILL-ON project
- Preparation of field trials
- Communication in field trials
- Risk assessment during the trials
- Follow up activities after the trials



Duration: 4 years (July 2006 - June 2010 => ext. Dec 2010)

Total budget: 15,6 Mio. €

EC contribution: 10,1 Mio. €

Coordinator: ttz Bremerhaven

Integrated project, FP6, Food Quality and Safety

RTD



SME & Industry





Real time temperature monitoring, geographic location and traceability system

Supply Chain Management & Decision Support System

TRACECHILL



- Fish Supply Chain Hand over points**
- From vessel
 - Fish Market
 - Processor
 - Trucking company
 - Shipping Company
 - Stevedoring at foreign port
 - Trucking to 2nd processor
 - Secondary Processor / Depot
 - Trucking to Market
 - Sales point at Market
 - Trucking to buyer
 - Buyers depot / cold store
 - Trucking
 - Retailer / Fishmonger / Restaurant
 - Consumer

Optimized chilling

T-sensors, GPS - ICT

Optical TTIs for packaging

QMRA /SLP models

Rapid detection of bacteria / qPCR



WP 7 Management Leader: ttz



WP1
Risk and Supply Chain
Assessment
Leader: Wessex Institute of
Technology



WP 2
Molecular Biological
Detection Methods
Leader: University of Kent



WP5
Integration and Validation
in Field Trials
Leader: University of
Iceland

WP 3
Technologies for chilling and
novel packaging
Leader : Matis

WP4
Information and
Communication Technologies
Leader: Afcon

WP 6 Dissemination and Training
Leader: ttz



WP5 goal



CHILL-ON technologies

- a holistic concept
- stand alone technologies

Status

- Prototypes - still in the testing phase
- Ready for implementation
- Commercial products

Supply chains:

– Poultry

- Germany
- Italy
- Brazil



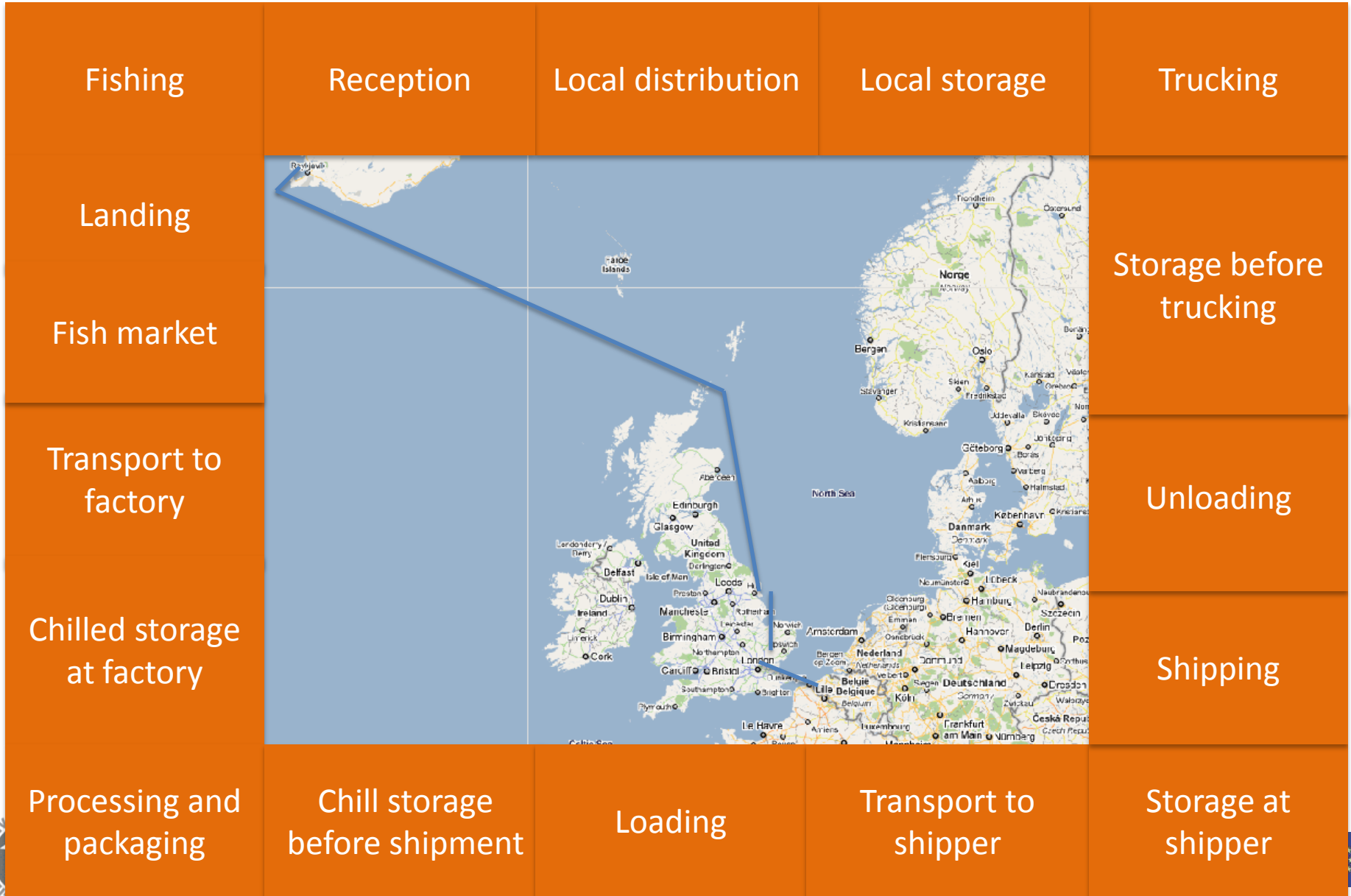
– Fish

- Cod IS-> FR
- Salmon, CSS NO-> FR
- Hake - Chile
- Tilapia - China

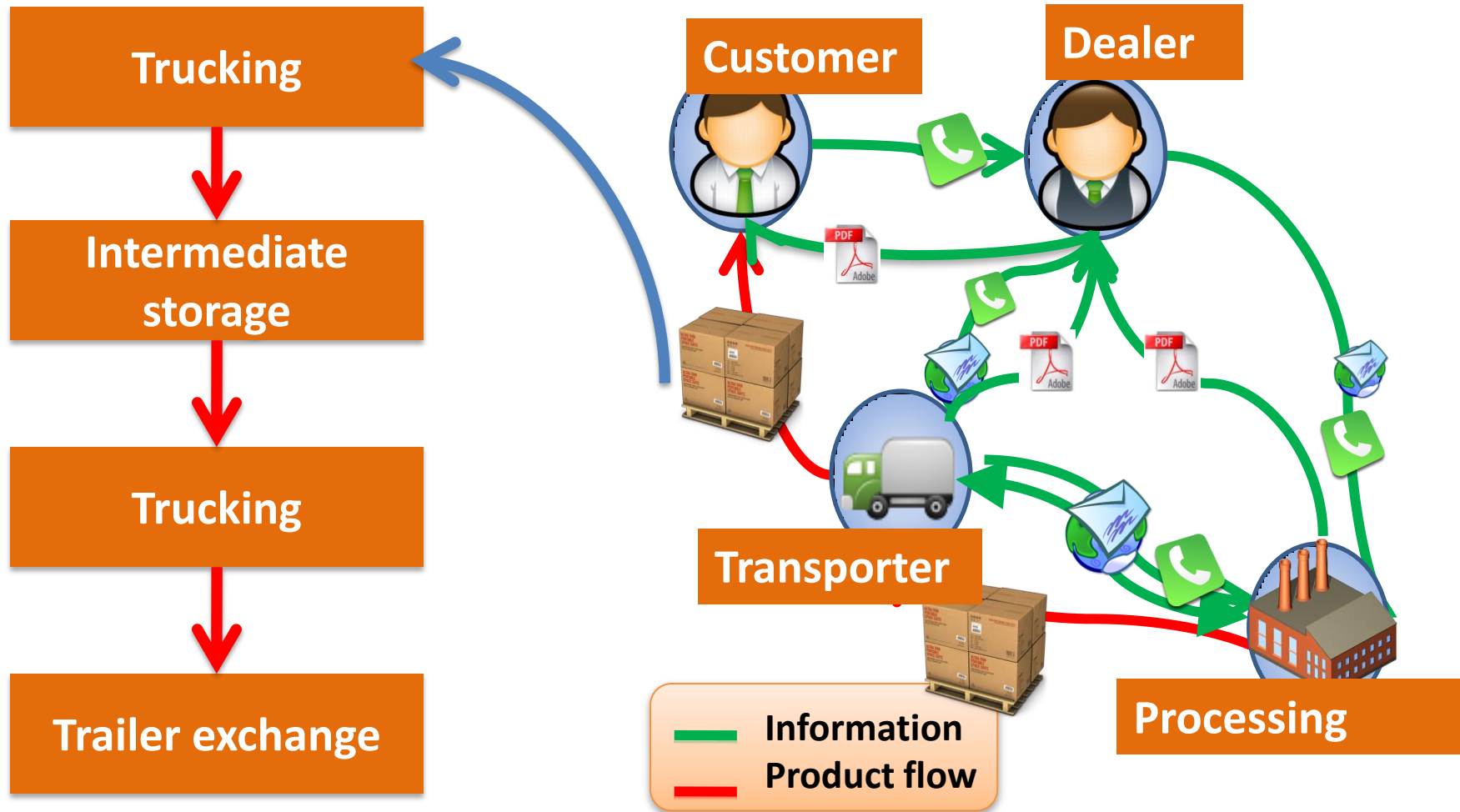


- Important for background information
 - Temperature
 - Locations
 - Processes
- Explore full dynamics of the chain
- Create local contacts
- Explore boundaries of the chain



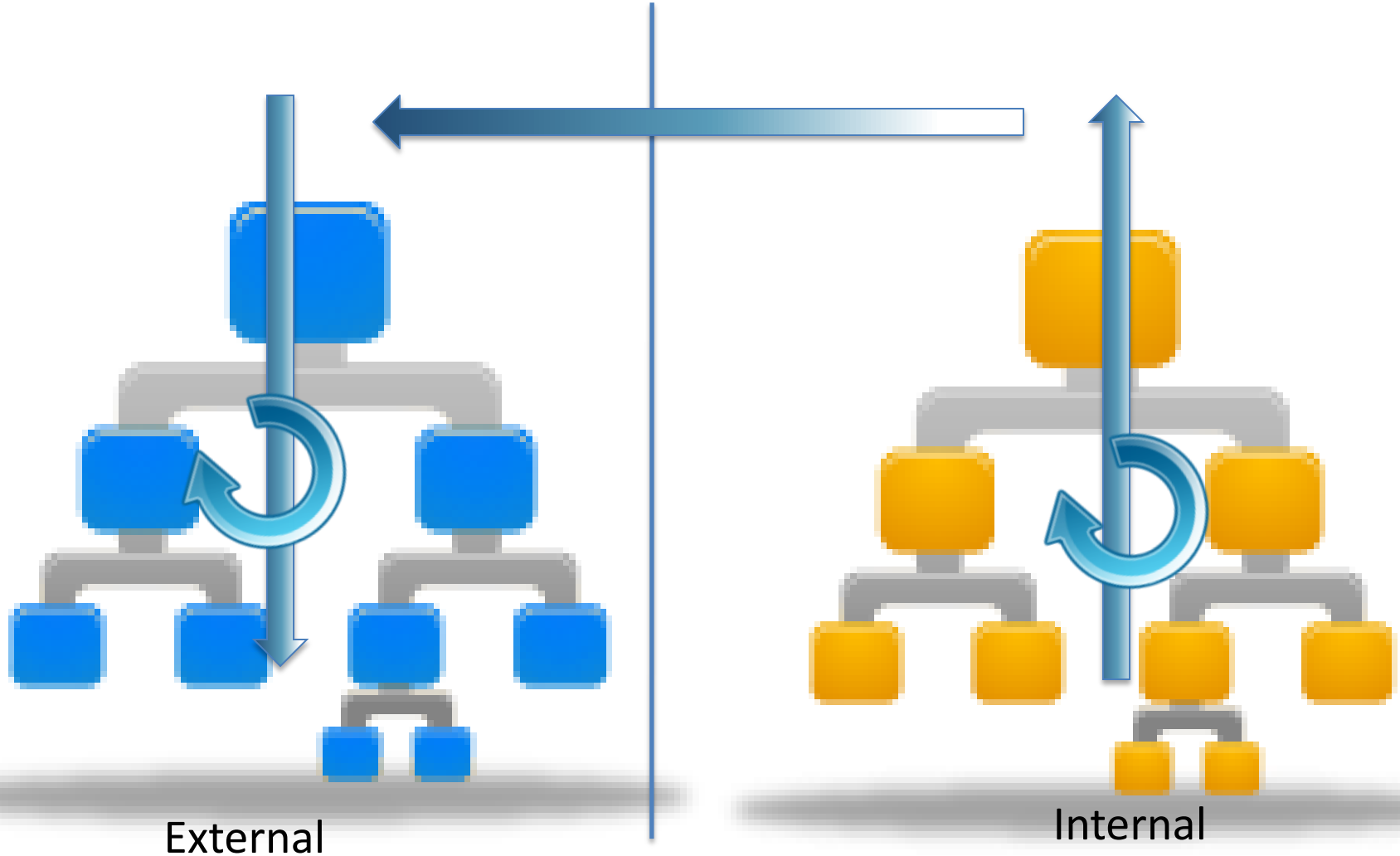


Current situation



- 15 – 20 operators in the chain
- Different motivation in the supply chain
- Some legs of the supply chains are broken further down
 - Logistics
 - Processing
 - Fishing


Communication



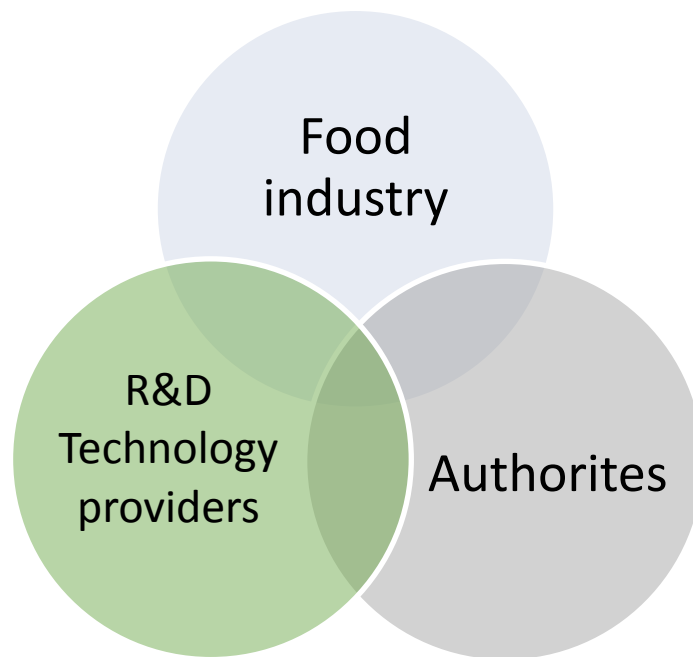
External

Internal

Internal communication



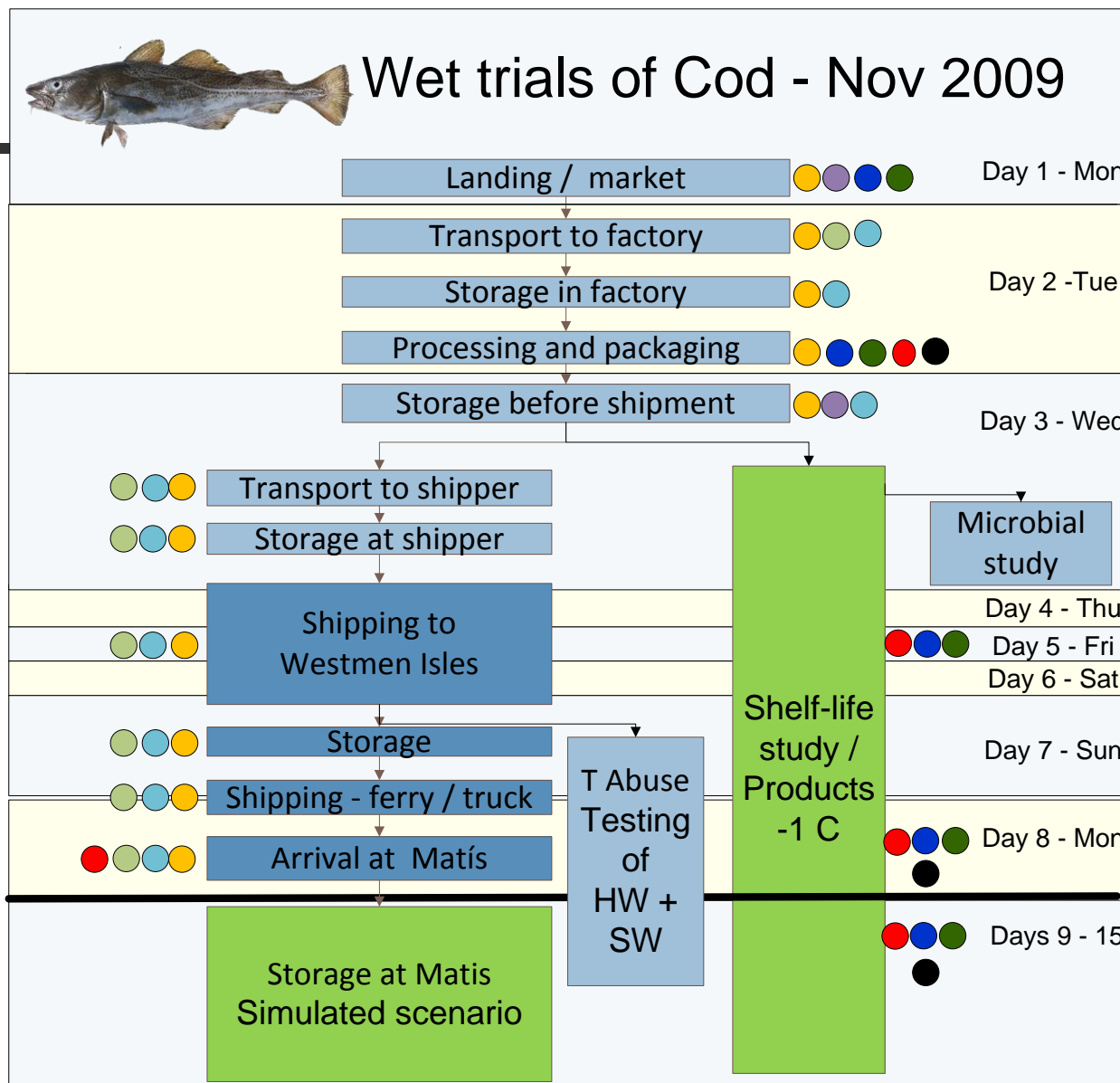
Challenges	
Different countries	<ul style="list-style-type: none"> • Cultural barriers • Language barriers
Different scientific disciplines	<ul style="list-style-type: none"> • Lack of understanding • Isolation
Industrial partners	<ul style="list-style-type: none"> • Competition - IPR • Motivation • Commitment



- Preparation for field trials
- Implementation and validation of technologies
- Integration, communication
- Complementary motives and mutual benefits of partners

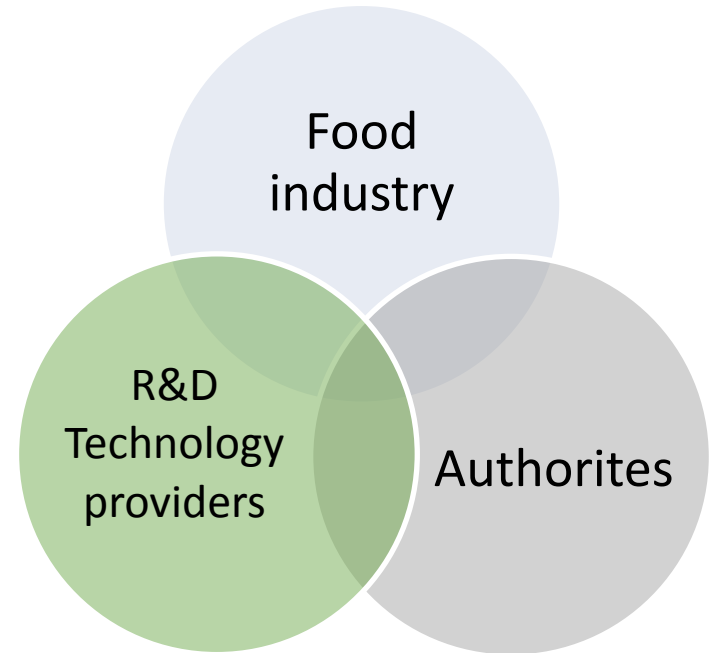


Wet trials of Cod - Nov 2009



- Detailed agenda
- Detailed Experimental plan
 - Detail technology used
 - Overview of the chain
- Validation goals
- Risk assessment
- Application sheets
- Iterative process

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- Different motivation
- Limited link to the project
- Different options within a company
- Simplified message – direct to the point

“Whispering game”



Risk process

- Very important part
- Was not only nice piece on a piece of paper
- Live document iterated every time
- Contingency plans were frequently used

Implementing technologies in field trials risk based approach

Conduct
risk
analysis

Determine
action
points

Establish
critical
limits

Establish
monitoring
procedures

Establish
corrective
actions

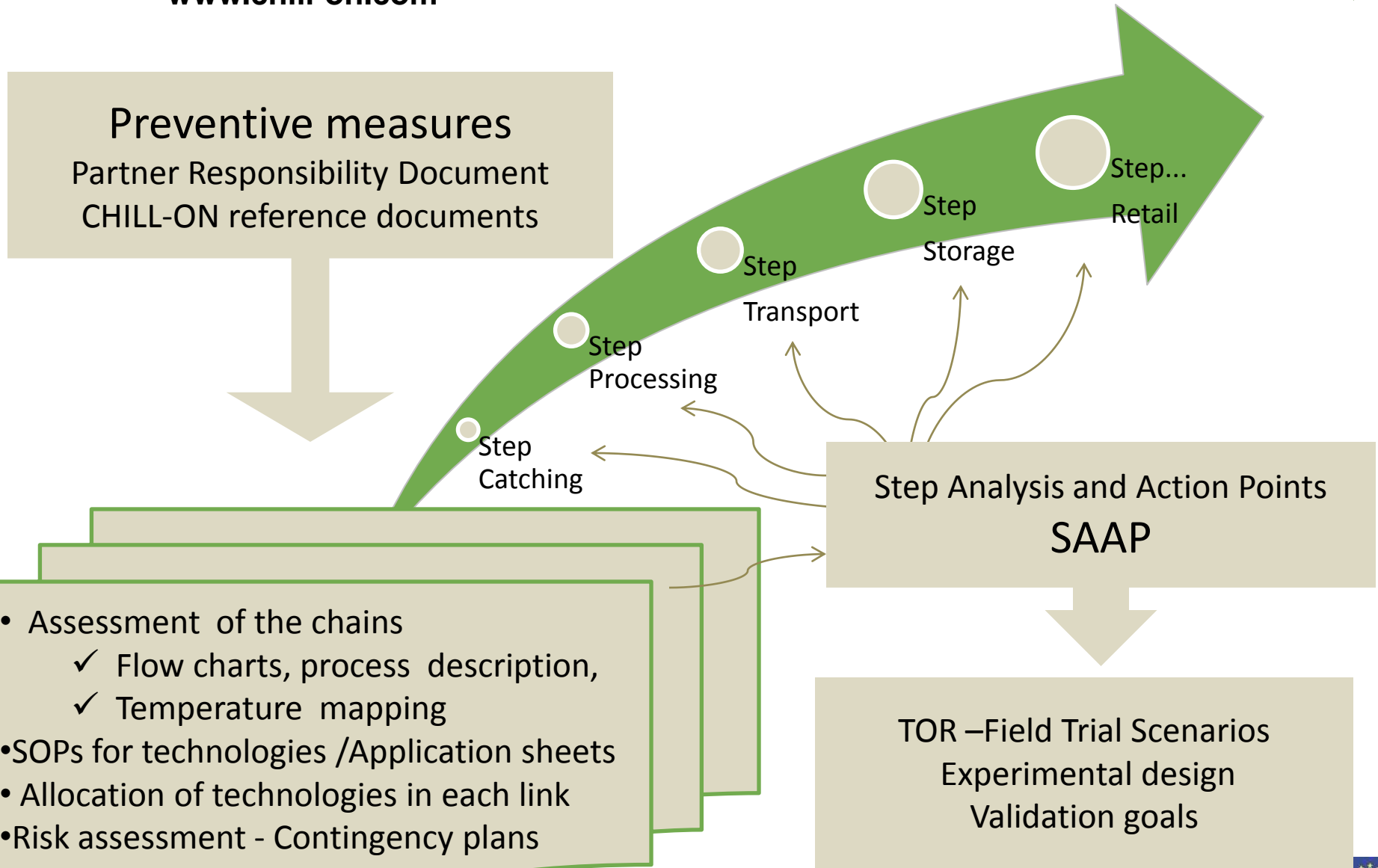
Establish
record
keeping
procedures

Establish
verification
procedures

- Adapt the 7 steps of HACCP methodology
- Analyse risks in the process of implementing technologies
- Evaluate all obstacles / Risk Assessment / Action points

➤ SAAP – based on preventive measures

Step Analysis and Action points							
Action point AP	Preventive Measures	Control measures	Target criteria min / max Alerts	Corrective action / Contingency plans	Records	Responsible operator	Internal reference documents



Example of risks

- Backup of systems
- Local communication
- Lack of products
- Participation of partners

Follow up process

- Errors, events, fails, faults, ideas and etc registered during the trials.
- Carefully filed
 - Linked to partner
 - Linked to process
- Each run between
 - 30 – 100 records
 - 50 -100 pages of document
- All communication was registered
 - During and after



Conclusions

- Mappings – not only for basic observation
- Communication – internal and external
- Communication – formal and informal
- Importance of follow up after the trials

Thank you, Any questions?

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