GROW2BUILD

Challenges in the chain of hemp based building material

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www.grow2build.eu

CONTENT

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NORTH WEST EUROPE: INTERREG IVB

DLV plant

WAGENINGEN UR
For quality of life

VIBE

Brunel UNIVERSITY LONDON

BAS

inagro
ONDERZOEK & ADVIES IN LAND- & TUINBOUW

SAXION

RWTH AACHEN UNIVERSITY ITA

Crepim

MateriaNova
MATERIALS R&D CENTRE

celabor

Investing in Opportunities

This project has received European Regional Development Funding through INTERREG IV B.

nwe
INTERREG IVB

GROW 2 BUILD

GOAL OF GROW2BUILD

Supporting the value chains of flax and hemp based building materials in the North West European market

Main topics:

1. Product chain development (network events)

2. Optimisation of the quality of the resources (optimisation of cultivation and processing techniques)

3. Improvement of the performance of biobased building materials (pilots)

4. Development of the demand (communication)

SOME RESULTS

- GIS Tool – who, what, where?
- Innovative network events
- Cooperation model
- Policy note – Policy event
- Cultivation demonstration – analysis – ring test
- Fact sheets cultivation and processing
- Online database on flax and hemp building material
- LCA's
- Pilots
- Centre of Excellence
- Guidebook on existing labels
- Brochures/catalogues building materials
- Mobile exposition
- Building scans

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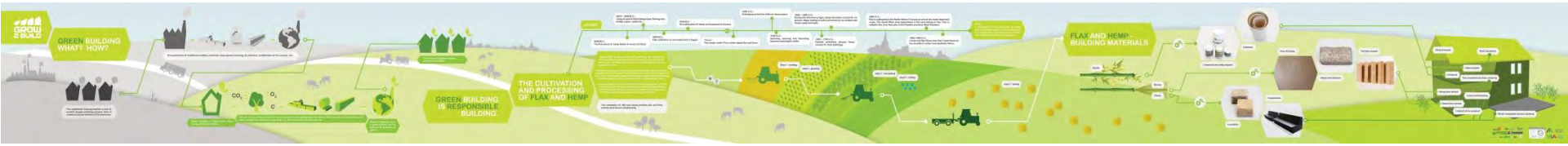
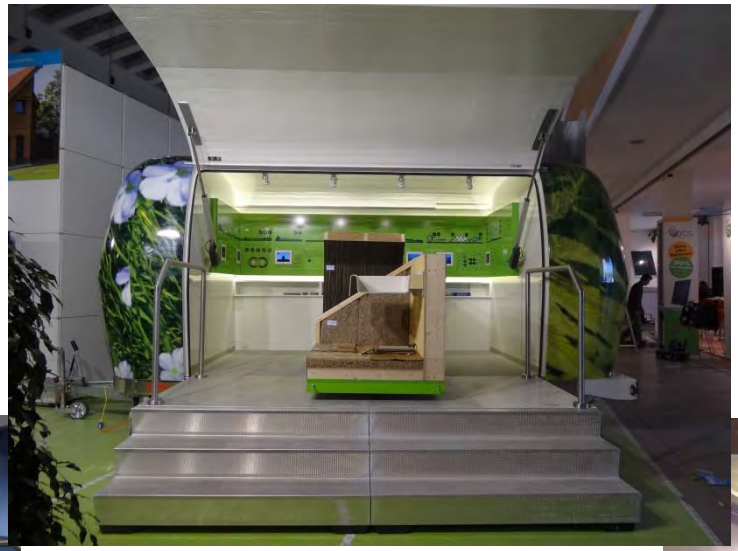
GIS TOOL

- Find and be found!
- For complete production chain
- On project website: www.grow2build.eu/maps

MOBILE EXPOSITION





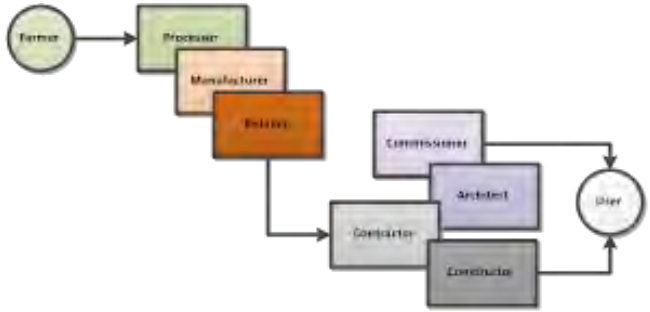
GROW 2 BUILD

POLICY EVENT

- Batibouw 27th of February 2015, Brussels
- Introduction on political challenges and perspectives
- Interactive discussion on:
    - Certification and standardization
    - Legislation
    - Communication/promotion
    - Knowledge and awareness
    - Agriculture

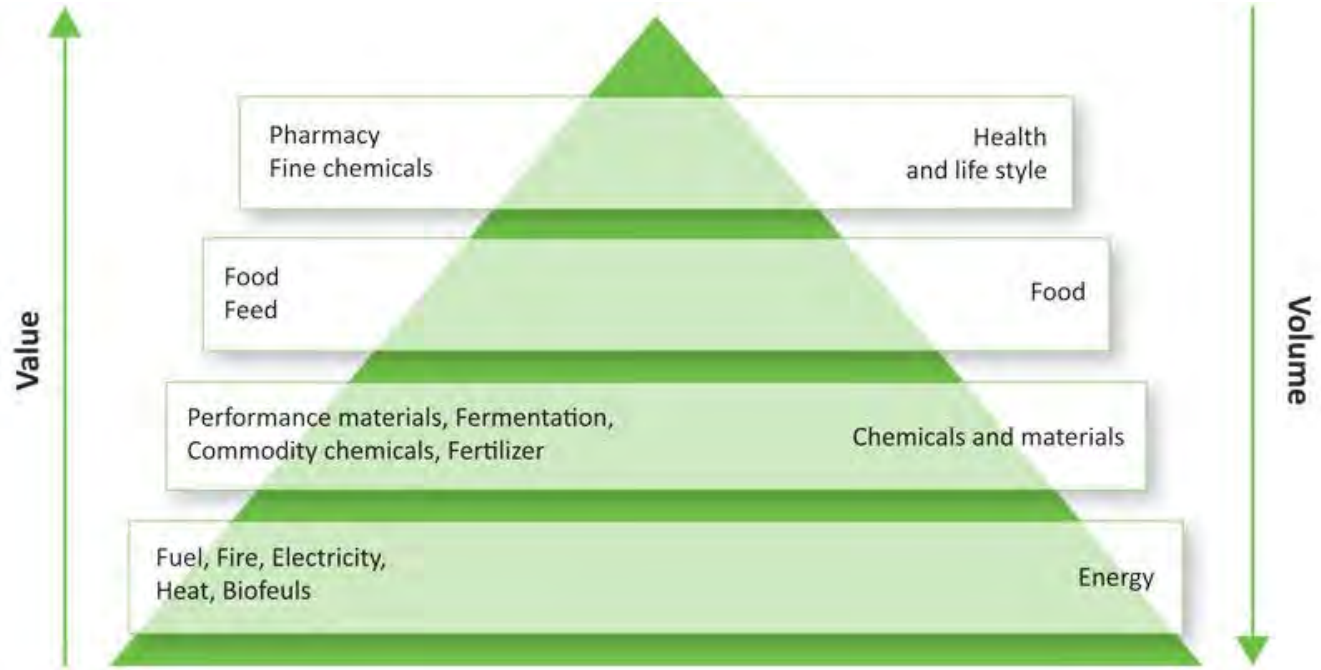
Challenges

- Cascading approach of biomass
- Carbon footprint
- Cultivation of biomass (hemp and flax)
- Standardisation/certification
- Valley of death
- Chain development/cooperation
- Demonstration and knowledge transfer
- Humidity control properties
- Health – energy - comfort



Cascading approach of biomass

- Fine chemicals – Food – Feed – Fibre - Fuel
- Fibre production has a higher value than (Bio)fuels
- Fibre support ≥ Fuel support



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CARBON FOOTPRINT

- Fibres used in building materials store carbon
- GHG emission reduction in cradle – factory
- Common calculation rules for the LCA's is needed
- Objective comparison with synthetic and mineral products needed

Cultivation of biomass (flax and hemp)

- Reliable raw material supply with constant quality important
- Current farmer prices for hemp and flax not competitive in NW Europe
    - CAP
    - Biodiversity
    - Whole product valorisation
    - Crop rotation
    - Soil structure

- Cultivation on non-agricultural land (not indoor)
- Food Feed Fuel discussion when cultivation significantly increases

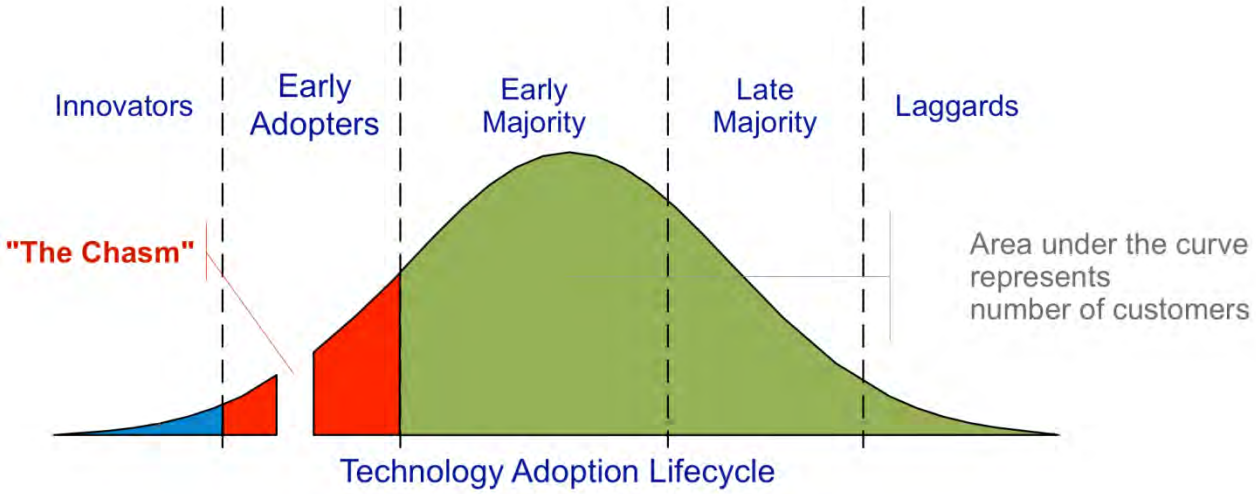
STANDARDISATION/CERTIFICATION

- Current regulations/certification tailor made for conventional building materials
- Standardized national and international testing of biobased building materials
- One certificate for all EU-countries
- Current regulation/certification system slows down innovation
- Objective information on performance of building materials

Valley of Death / The Chasm

Bridge the gap between innovators/early adopters and majority

- Proven added value regarding health, living comfort and easy use and maintenance
- Cost benefit ratio during life cycle (beyond purchase)
- Availability and supply through conventional supply chain
- Financial resources (cooperation/subsidies)



Crossing the Chasm (Moore, 2006)

Chain development/cooperation

Biobased building material <-> Small scale businesses

- Procedures / costs certification
- Limited financial resources
- Tender rules, administrative burden
- Technical ≥ business knowledge

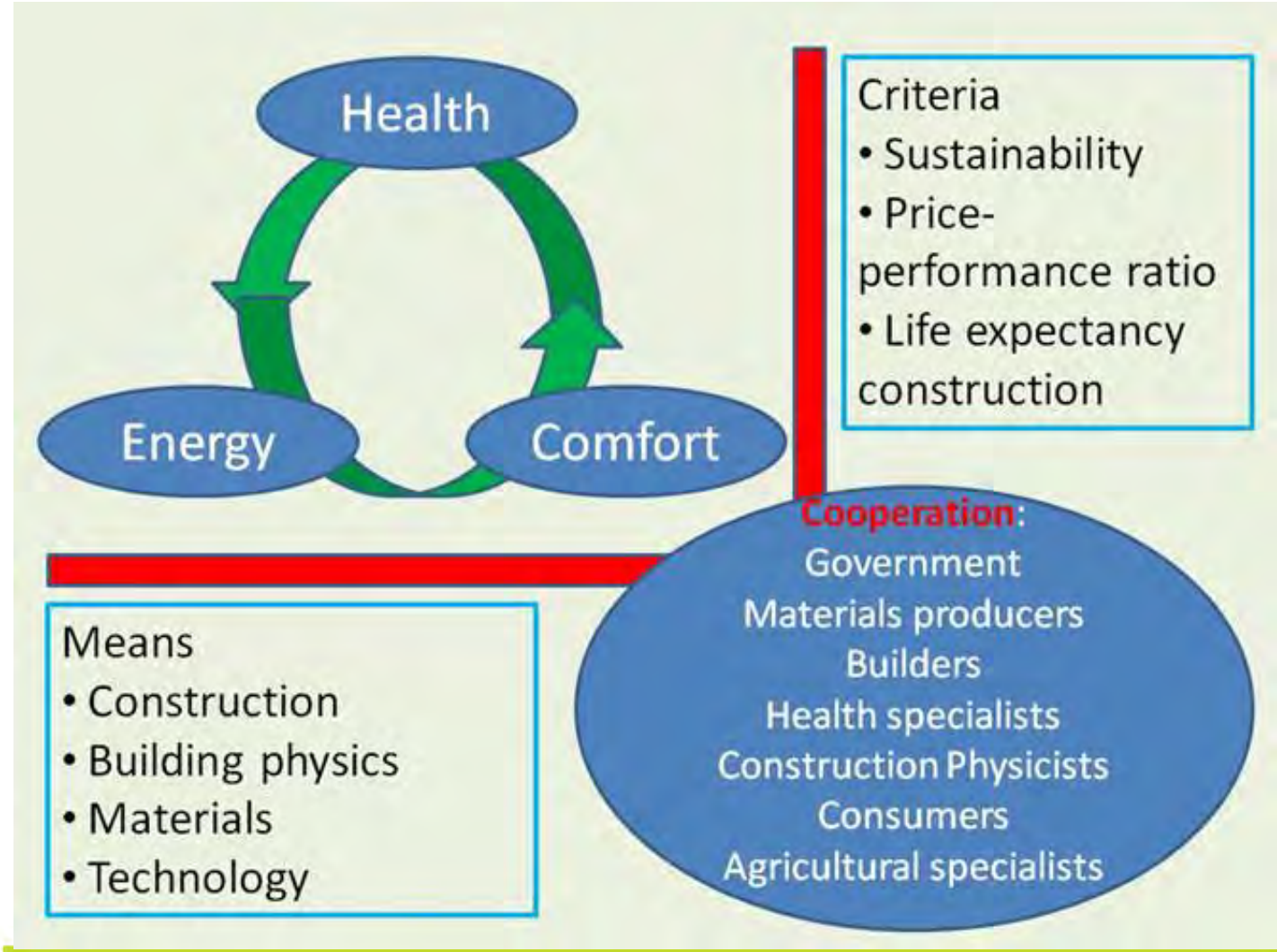
Examples of cooperation:

- Producers organisations
- Common marketing and PR
- Large scale construction tendering
- Green deals

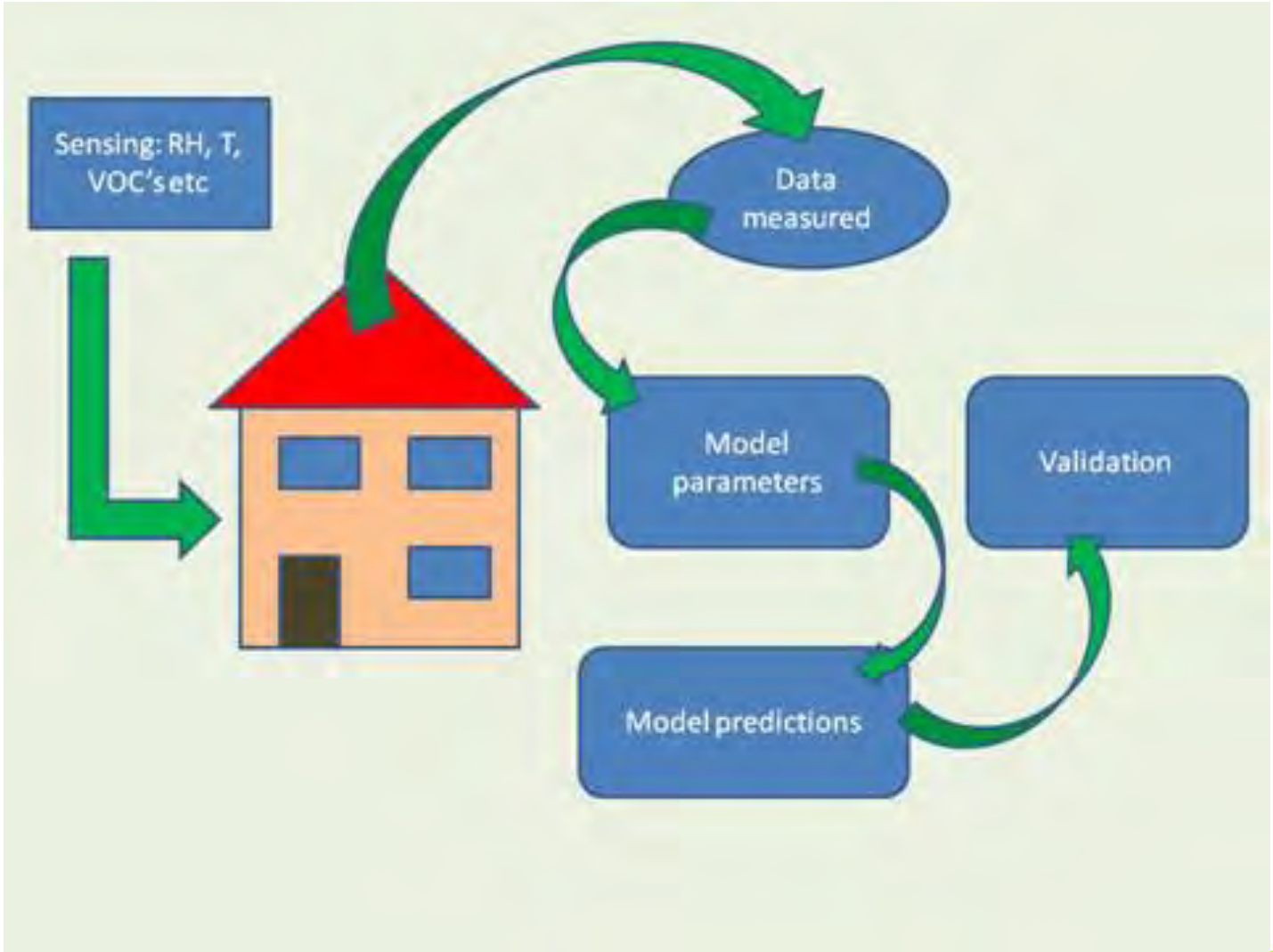
Demonstration and knowledge transfer

- Create demand by demonstration
- Adaptation of common industrial building practice
    - Design (architects)
    - Construction (constructors)
    - Change needed from cost reduction to sustainability
- Demonstration
    - Sharing of knowledge and knowhow
    - Education
    - Monitoring

HUMIDITY CONTROL PROPERTIES



HEALTH - ENERGY - COMFORT



CONCLUDING REMARKS

- Farmers will produce at the right price
- Cooperation in the chain is important to:
  - Lobby (certification/tenders)
  - Create healthy business models
  - Common marketing and PR (science based / facts)
- EU/local government should stimulate fibre
- Public institutions should initiate pilots / integrate in procurement policy
- Tenders should stimulate use of biobased fibre in building applications
- Knowledge based information supply (technical performance, health, comfort, energy, safety, maintenance, etc.)

Growing hemp for building has a future!

Thank you for your attention

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