



NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

The future of furniture industry: creativity and innovation

Levente Dénes Phd.



Is it worth to develop new products?

NOT:

- Means extra work, extra costs
- It is risky
- We don't believe in
- We don't trust in ourselves





Is it worth to develop new products?

YES:

- Time changes, needs change
- Continuous improvement
- Higher value
- Assures competitiveness





Support for forest based products' development:

The new EU Forest Strategy: for forests and the forest-based sector

- contributing to balancing various forest functions, meeting demands, and delivering vital ecosystem services;
- providing a basis for forestry and the whole forest-based value chain to be competitive and viable contributors to the bio-based economy



Furniture industry in EU:

- 1 million workers ;
 - 130.000 companies
 - annual turnover of around 96 billion Euro
-
- labour-intensive and dynamic industry
 - dominated by SMEs and micro firms
 - creative capacity for new designs
 - ability to combine new technologies and innovation with cultural heritage and style
 - highly skilled employees and performing production



Furniture industry in EU:

Challenges:

- enormous competition from foreign countries
- vulnerable to weak protection of intellectual property rights
- structural problems (ageing workforce)
- Research and innovations costs are high, the finance for SMEs is difficult
- protectionist measures on other international markets



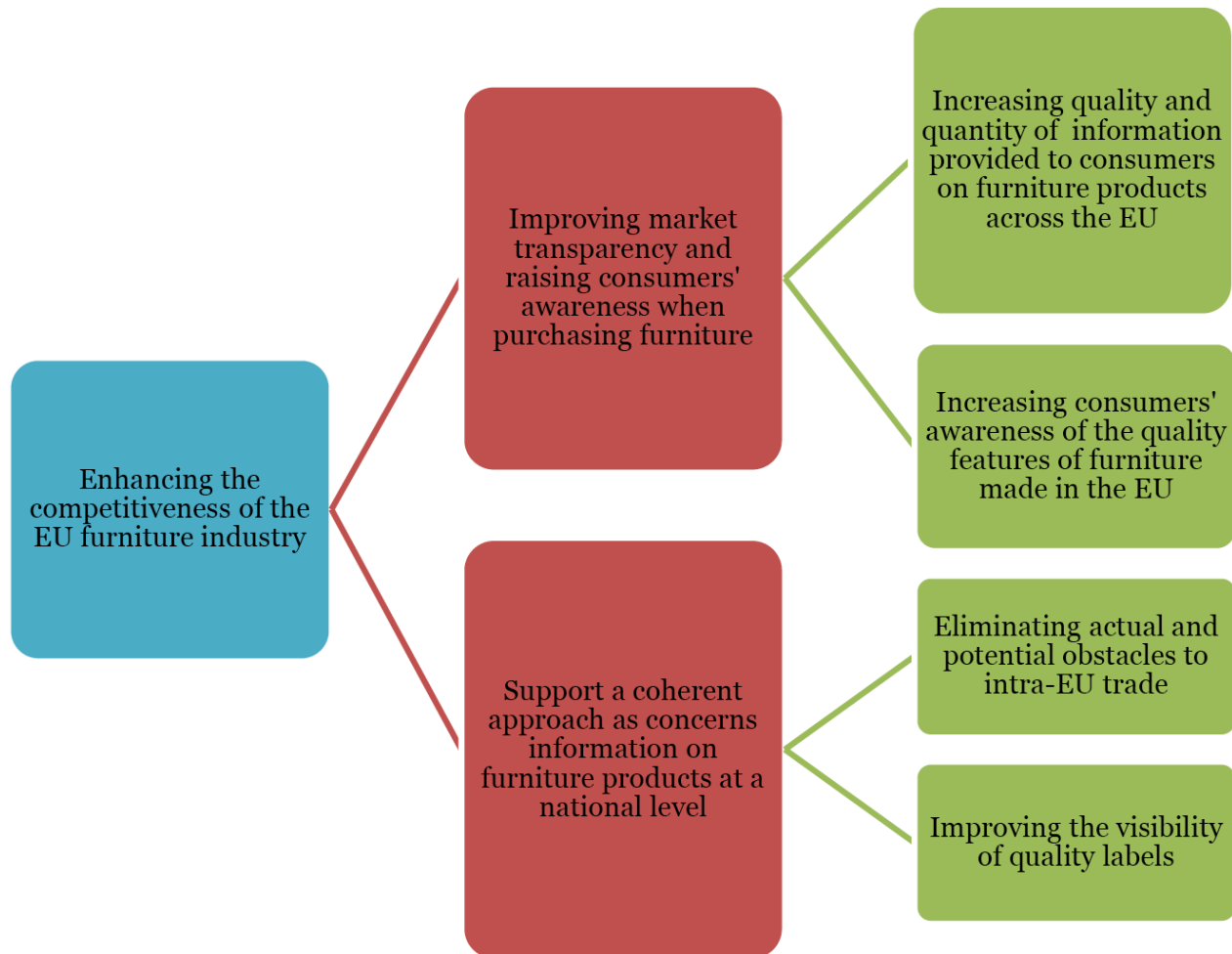
Furniture industry in EU:

Opportunities:

- restructuring, technological advances and business model innovations
- upgrading quality, design and innovation
- investment in skills, design, creativity, research, innovation and new technologies
- creation of high technology and knowledge intensive jobs
- seize other markets, in particular in the high-end segments and emerging



Objectives of a possible furniture products initiative :





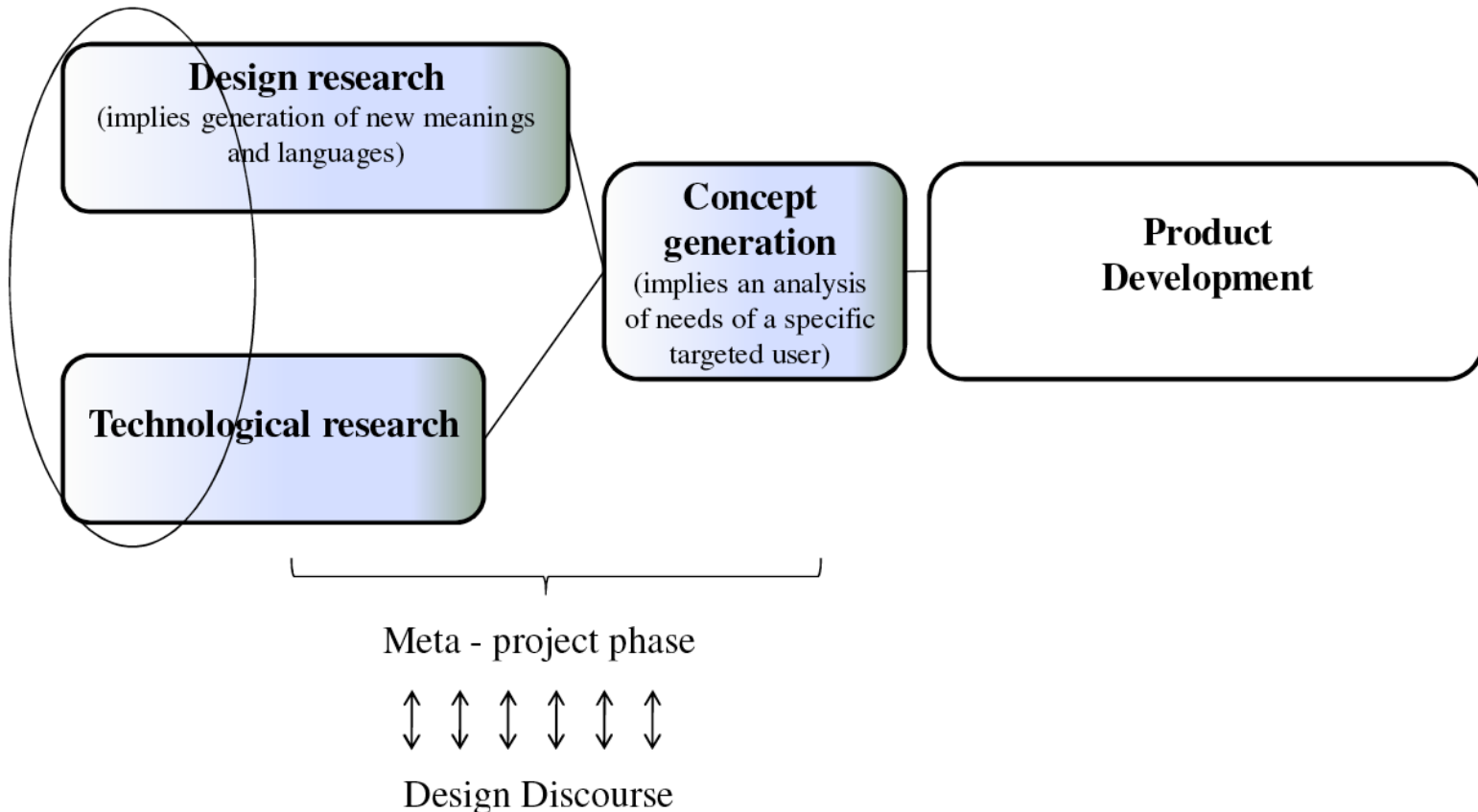
Design driven innovation strategies in furniture industry:

- External / Internal designers
- Radical / Incremental innovation
- Proactive approach / User-centered approach
- Design research / Concept generation



The design-innovation process in the Italian furniture industry (Verganti, Dell'Era, 2010):

Designer selection





NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

Study case: Furniture design at FAMOS SA

- 9 persons:





NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

Study case: Furniture design at FAMOS SA

- 15 product concepts:

Famos workshop 2015
Csoma Sarolta
1.terv

Famos workshop 2015
Csoma Sarolta
3.terv



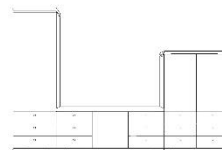
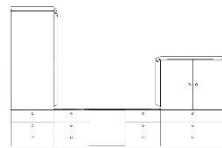
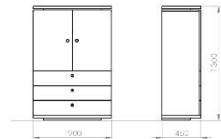


NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

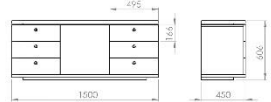
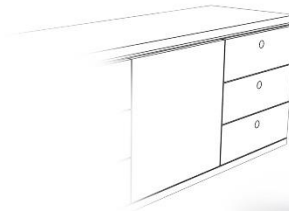
Study case: Furniture design at FAMOS SA

- 15 product concepts:

Famos workshop / 1./a
designed by HORVÁTH IMÁKÉ



Famos workshop / 1.
designed by HORVÁTH IMÁKÉ





NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

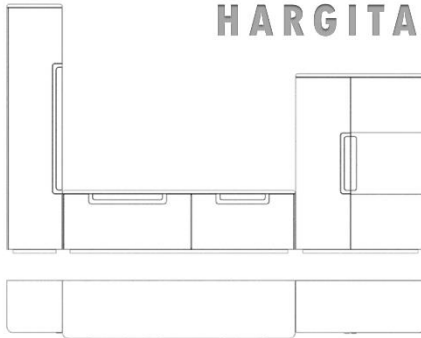
Study case: Furniture design at FAMOS SA

- 15 product concepts:



USZÁSZI RICHÁRD

HARGITA



Ujvári Róbert



Ujvári Róbert



NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

Study case: Furniture design at FAMOS SA

- 15 product concepts:



MODEL 01

Simon



MODEL 04

Simon



NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

Trends and developments in furniture industry:

The rise of telecommuting is driving the demand for home office furniture.





NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

Trends and developments in furniture industry:

Multi-functional, versatile furniture

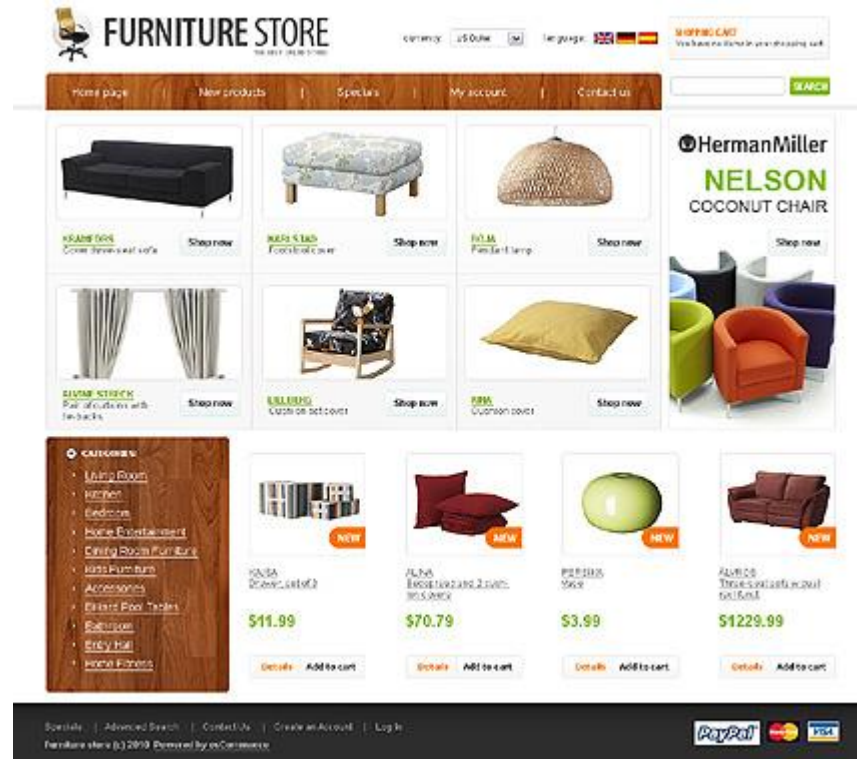




NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

Trends and developments in furniture industry:

Online is the fastest-growing channel in developing markets





NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

Trends and developments in furniture industry:

The demand for luxury furniture is increasing





NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

Trends and developments in furniture industry:

More furniture vendors are choosing to go green





NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

Trends and developments in furniture industry: Smart furniture, intelligent furniture, intelligent manufacturing



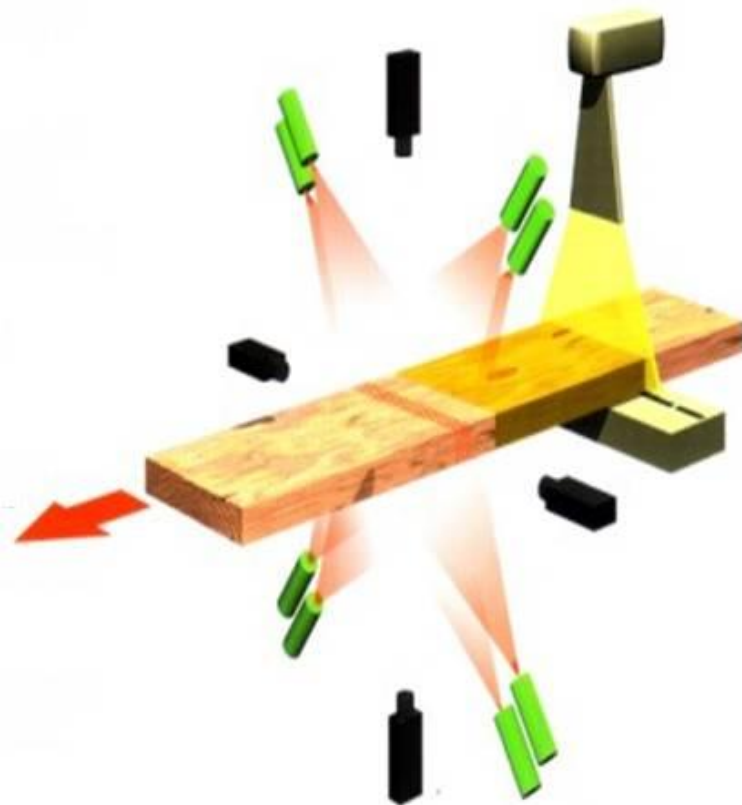


NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

Intelligent products in wood industry:

Optimization of wood utilization:

Lumber grading by GOLDENEYE 506-al (Microtec) :



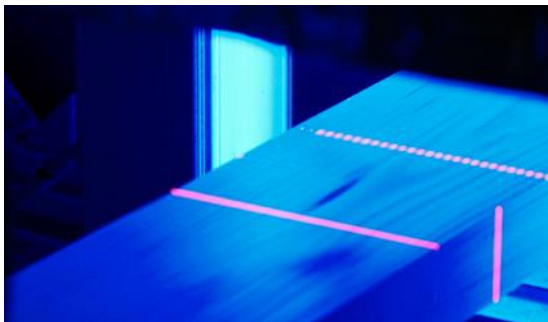
- color and laser scanners
- X-Ray
- strength grading
- ViSCAN technology
- high resolution, precision
- for secondary processing (furniture, joinery)



NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

Intelligent products in wood industry:

Determining the wood quality



Functions:

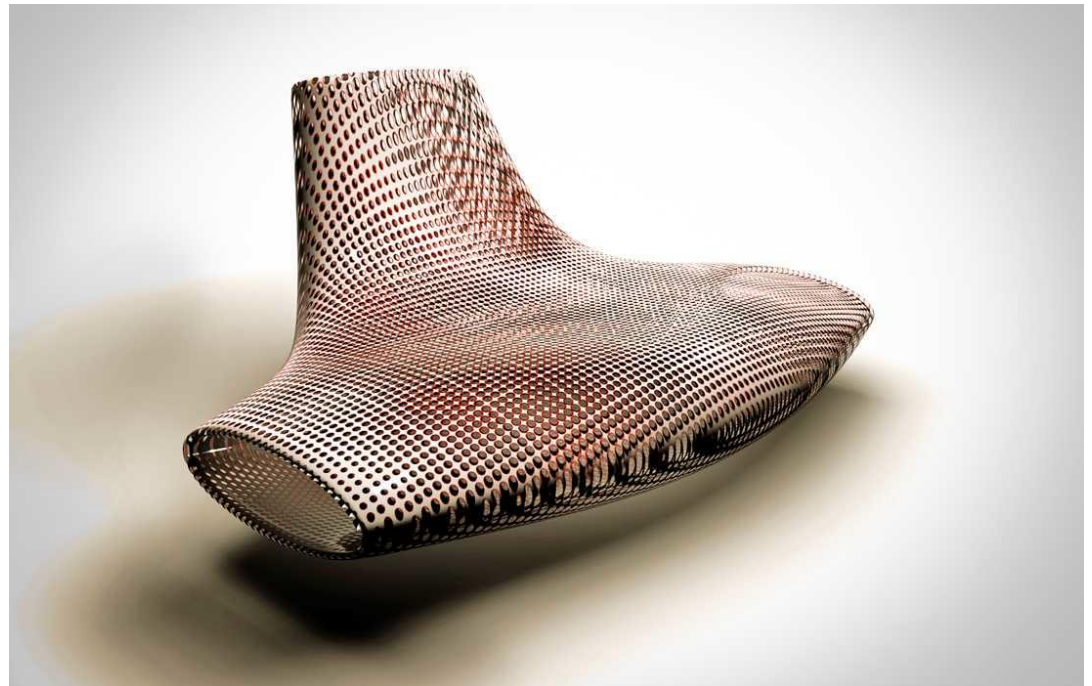
- Revealing the wood interior
- lumber modelling, dimensions
- knot detection
- density
- form defects (cupping, twisting, bowing)
- pith recognition
- color recognition (red heartwood, bark, brown decay)
- reaction wood
- in-line integrity



NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

Trends and developments in furniture industry:

3D printing, additive manufacturing





NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

Trends and developments in furniture industry:

3D printing, additive manufacturing





Case study: Inflatable window sealing

Dr. Balázs Bencsik, Dr. Levente Dénes



- intelligent sealing
- climate comfort assured by sensors
- fit in actual profiles
- developed in the mainframe of a large project
- took 2 years
- the control system not developed yet
- patent registration no.: P150007
- looking for producers



Case study: Sally chair – Máté Horváth industrial designer



- made of black locust (*Robinia pseudoacacia*)
- started as a diploma thesis (Sept., 2015)
- student advised by 3 professionals
- at this time 3 versions were made
- last prototypes exhibited at Made in Hungary
- hopefully will be in serial production this year



NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

We offer our competencies for cooperation:

- 1. Furniture design, development**
- 2. Advanced manufacturing management systems**
- 3. Wood structures, construction**
- 4. Furniture marketing**





NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

What the interested parties link together :

*Common interest
The pleasure of creation
and
We all love wood!!*



NYUGAT-MAGYARORSZÁGI EGYETEM
SIMONYI KÁROLY MŰSZAKI, FAANYAGTUDOMÁNYI ÉS MŰVÉSZETI KAR

Thank you for your attention!

Good luck!