



EuroNanoForum
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The EELICON-Project

(EU Grant: 604204)

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THE PROBLEM



Today: Glass based electrochromic devices

- Expensive (1.000 €/m²)
- Not bendable
- Not light-weight

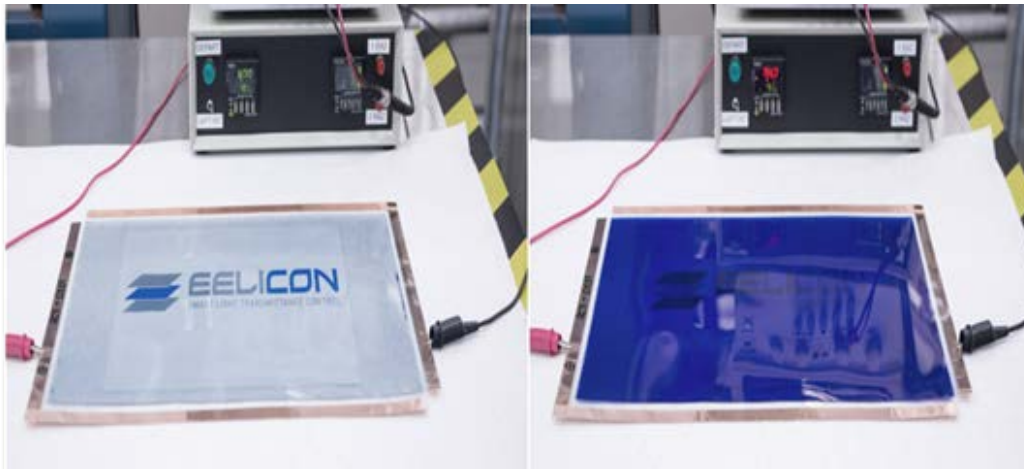
DEMAND: Film based electrochromic device technology

- Reduced cost
- Bendable & light-weight
- Production capability

THE SOLUTION

EELICON flexible electrochromic Film

- Bendable, light-weight & large-area (endless)
- Freedom of design, retrofit-able
- Low-cost R2R-production (target = 200 €/m²)
- Open access R2R-pilot line available



THE UNIQUE VALUE PROPOSITION

Full EELICON technology solution available:

- Our product is bendable & light-weight, large-area & low-cost
- Broad thermal operation range
- Low power consumption
- Patented chemistry, R2R-processes & equipment



IDEA VALIDATION



Customer requests

- Cost
- Shape & size
- Color & life-time
- Light transmittance (dark-state // bright-state)
- Durability
- Thermal stability

EELICON solution

- Target of 200€/m²
- R2R-process (endless)
- Blue color (others in RD)
- 5-10% // 60-65%
- 100.000 cycles
- -25°- +60°C

Reference: EELICON D12.4 *Business Planning Recommendations*

TARGET MARKET

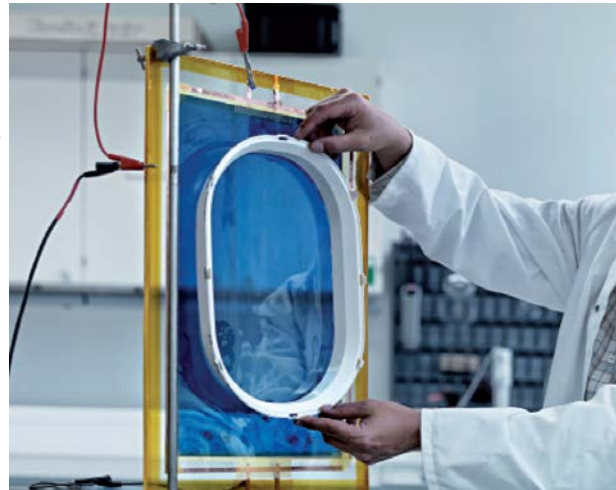
EELICON EC-films target 5 different **global markets** today:

- Automotive (window shading, glare protection)
- Aerospace (window shading, glare protection)
- Architecture (large-area window shading, energy savings)
- Appliances (household aids, pins, etc.)
- Activity (sports)

All market segments
are still growing!

Reference: EELICON D12.4

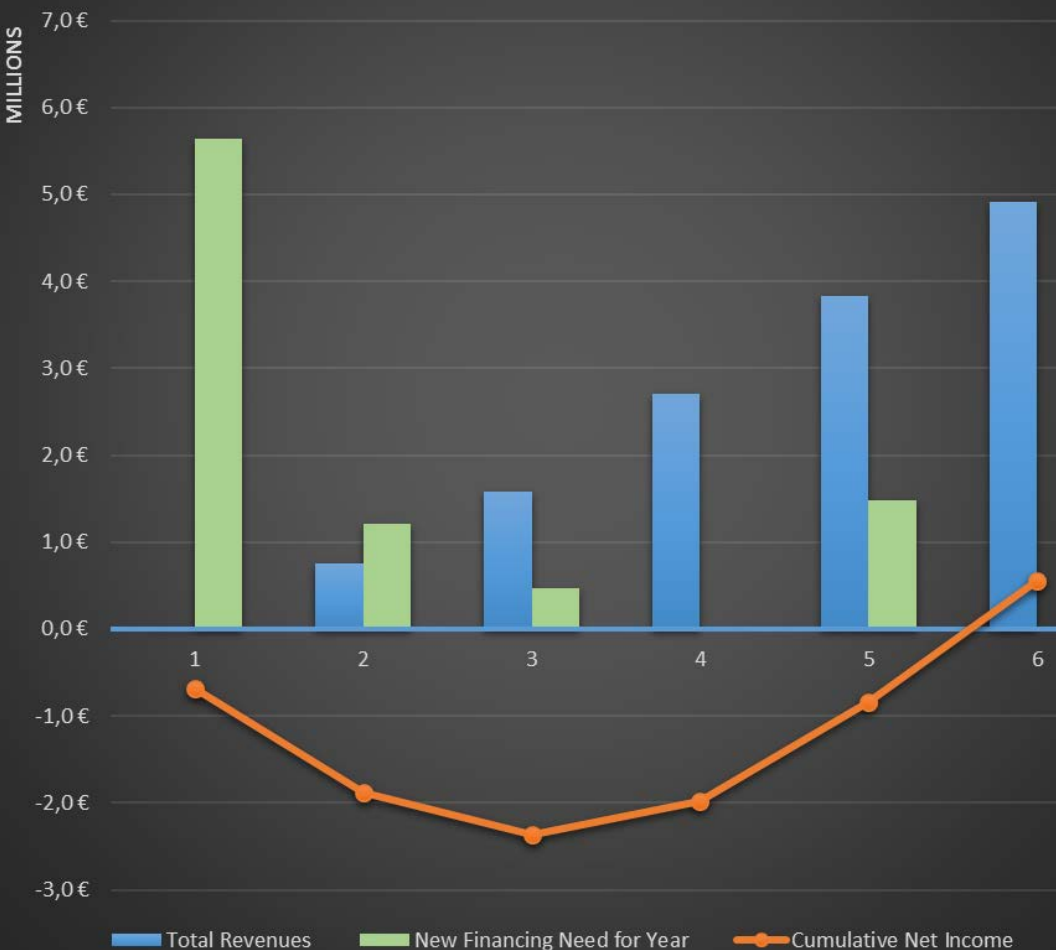
Business Planning Recommendations



FINANCIAL PLAN / ESTIMATION



Financing Needs, Annual Sales,
Cumulative Net Income
(3 lead clients)



Seed investment required

- Production line & expansions

Total revenues

- Balancing effect of 5 different global markets

Break Even within 6 years

- Fast return on investment ROI
- Valley of death nearly crossed

Not shown:

- Strong rising Demand for EC Films expected (Factor 8!)

Numbers only based on
3 lead customers in EELICON

Reference: EELICON D3.3 *Preliminary Business Case & Costing*

STRATEGY:

- **Licensing model (Royalties)**
 - Up-front license
 - Annual license
 - Sales dependent license

- **Joint Venture model (Stakeholder)**
 - Further industrialization
 - Integration in production

TEAM



Partners and Roles:



- Technology owner
- Patent owner (chemistry & process)

with



- Production with partners
- Further optimization
- Novel appliances
 - Design & production with



- Scaling to production line
- R2R-Engineering Solution
- Operation & Maintenance
- Service Package

EELICON partners: Hydro-Québec Institut de recherche, Canada; University of Milano, Italy and Ynvisible, Portugal

STATE OF THE ART & FUTURE ACTIVITIES



EELICON-Project finalized June 30, 2017

- TRL 5-6 successfully reached
- R2R-pilotline finalized & demonstrated
- All processes adapted & transferred
- Market analyzed & business plan elaborated
- Ready for production
- Cost target = 200 €/m² demonstrated
- Several requests for large-area samples from industry

Future activities

- Find industrial partner
- Start production line
- Demonstrate further drop in production cost (78€/m²)

Interactive badge

final concept can be tailored to design wishes

EELICON electrochromic film
with overprinted static
color graphics

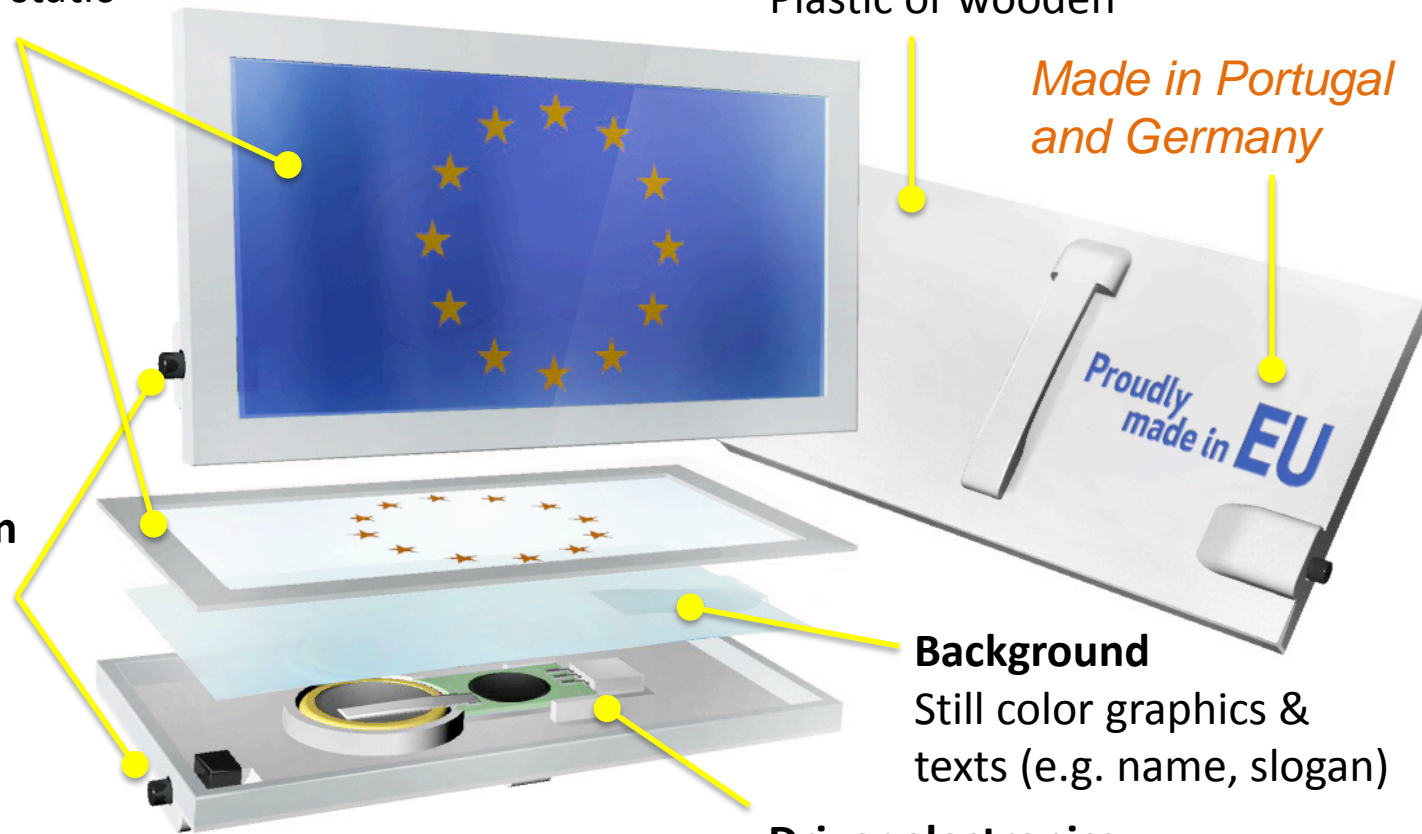
Casing
Plastic or wooden

*Made in Portugal
and Germany*

Button activation
Activates
electrochromic
film

Background
Still color graphics &
texts (e.g. name, slogan)

Driver electronics



CALL TO ACTION



WE OFFER to INDUSTRY:

- Licensing model
- Joint venture model

WE NEED FURTHER FUNDING FOR:

- 14 Mio. € to realize permanent production line
- Technology placement into key markets

See our EELICON PIN ! **ynvisible**
things
alive

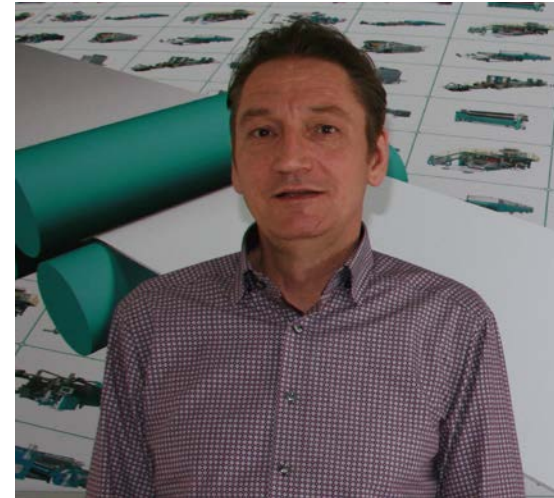
“Imagine 100.000 beating hearts for Europe!”



WE´LL BE IN TOUCH



Visit booth 34 at the ENF17 Exhibition!



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