

## Workshop No. 1

Monday, 27.10.2008 - 14:00 – 17:30

Maritim Hotel, Berlin

Documentation of the wall paper work

### WHO & WHAT IS THE COMPETITION



- Japan and Europe as the competitors
- inorganic and organic technology
  
- inorganic technologies
- Silicon
- hybrid structures
- potential: large companies
  
- High throughput assembly of Si-El. [?] (Either manual or R2R, flex)
- China/Asia
- Si-related manufacturing
  
- Global Players with European Headquarters (Siemens et al.)
  
- countries:
  - ASIA
  - South Korea, Taiwan, Japan
- technology: cheap silicon

NoE PolyNet / FP7 GA 214006 / Minutes WS1

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- USA & Far East
- “Fast Money” to apply and make business
- “Hungry people” to achieve something
- easy living in Europe
  
- our own internal disorganized actions within Europe
- OLAE is not perceived as an important R&D field/ money goes into other developments
- Investments are not timely (too early or too late)
- Technology vs. Business valuation is not correct and does not support commercial ventures
  
- silicon is competitor to polymer electronics (chips, poly-Si...)
  
- silicon-based electronics (micro electronics)
  
- standard silicon industry, with improved packaging
- non-“active” solutions: electronic part is reported outside the large area
  
- Who: established Si, LCD and Compound Semi-conductor industry
- What: moving target as existing established industry continuously improves

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## MAIN EUROPEAN BUSINESS AREAS



- materials
- design (user/end-product)
- new applications with added value
- not micro-electronics silicon
- clustering driven by distributed printing
- crisis
- USA, Asia

### potential:

- OPV: clear!? (cost, weight, flexible)
- display: same as above
- sensors: no real business need for large area sensor?

### main business potential:

- areas with unique features and no direct competition to established industry
  - e.g. OLED lighting, flexible electronics/displays
- Intelligent Smart Labels (Logistics, distributed monitoring)

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- photo voltaics
- diagnostics
  
- Smart Systems
- main buisness/ large area devices/ OPV/ Lighting

## MOST IMPORTANT OBSTACLES (in Europe)



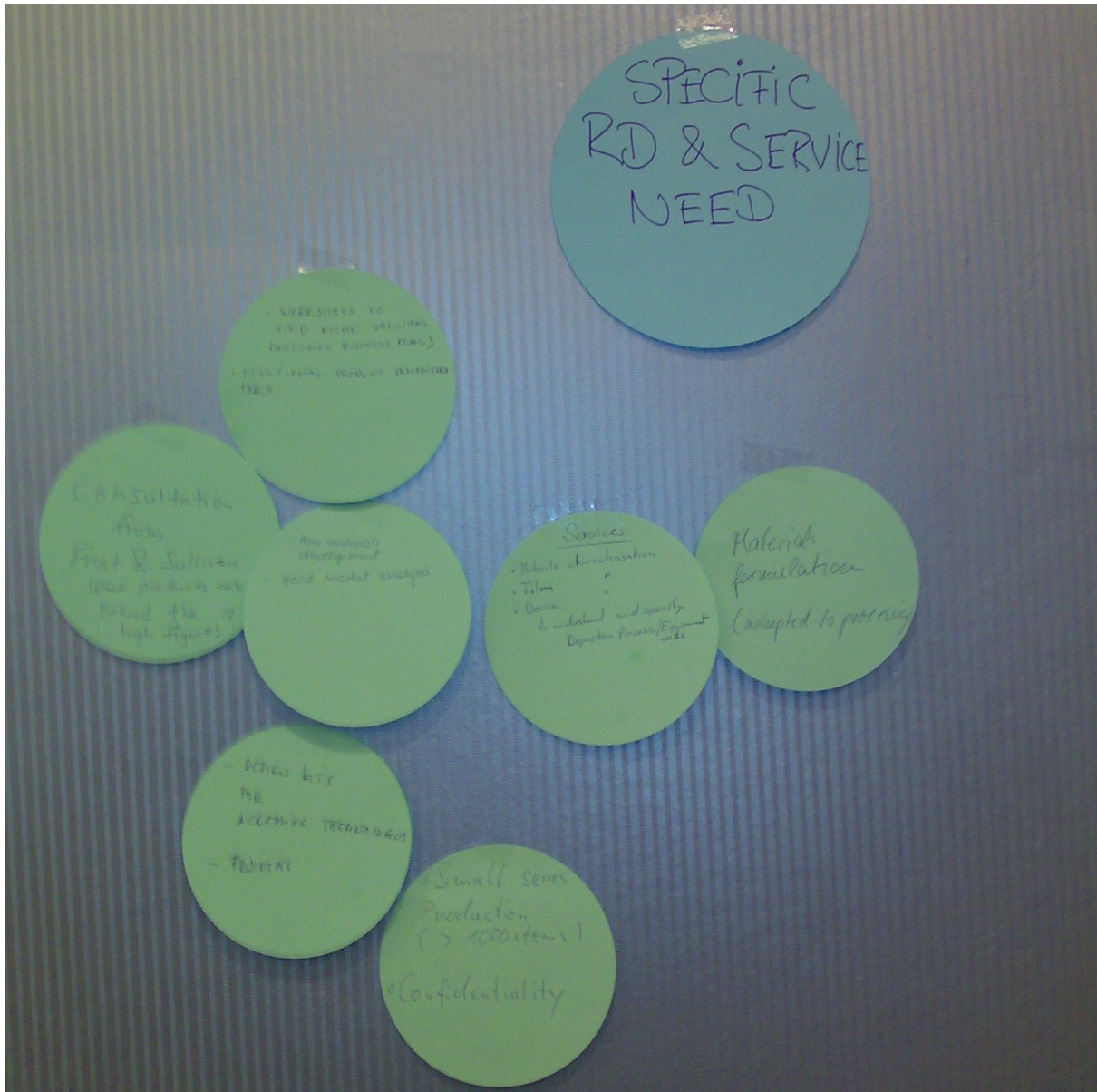
- technology fear caused by economic crisis
- need to think about added value coming from OLAE
- what is OLAE solving (?)?
- only few applications pulling the technology
- very expensive technologies
- only the innovative ideas have a real chance on the market
- lack of basic knowledge on materials
- no existing markets yet
- need to overcome certain volume to create “Market Pull”
- cost competition
- costs because of lack of standard tools

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- how to make the application and technology to meet each other?
- where to find the entrepreneurs (new or existing company) to this OLAE sector?
- how to lower the barrier to start product oriented business?
  
- materials (performance, durability)
- business cases (needs)
  
- technology is not ready for large scale market introduction
  - niche applications to market first
  - small revenue, high cost of production
- no manufacturing process competence or manufacturing site
- no business case - or is there??
  
- lack of competence in electronics at conventional Printing Industries (integration)
- business cases – invest

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## SPECIFIC RD & SERVICE NEED



- workshops to find niche solutions (including business plans)
- functional product demonstrators
- consultation from Frost & Sullivan
  - what product are behind the high figures?
- new materials development
- good market analysis
- materials characterisation
- film characterisation
- device characterisation

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- to understand and specify deposition process/ equipment needs
- materials formulation (adapted to processing)
- design kits for accessing technologies
- printing
- small series production (> 1000 items)
- confidentiality