



KIC InnoEnergy

State of play

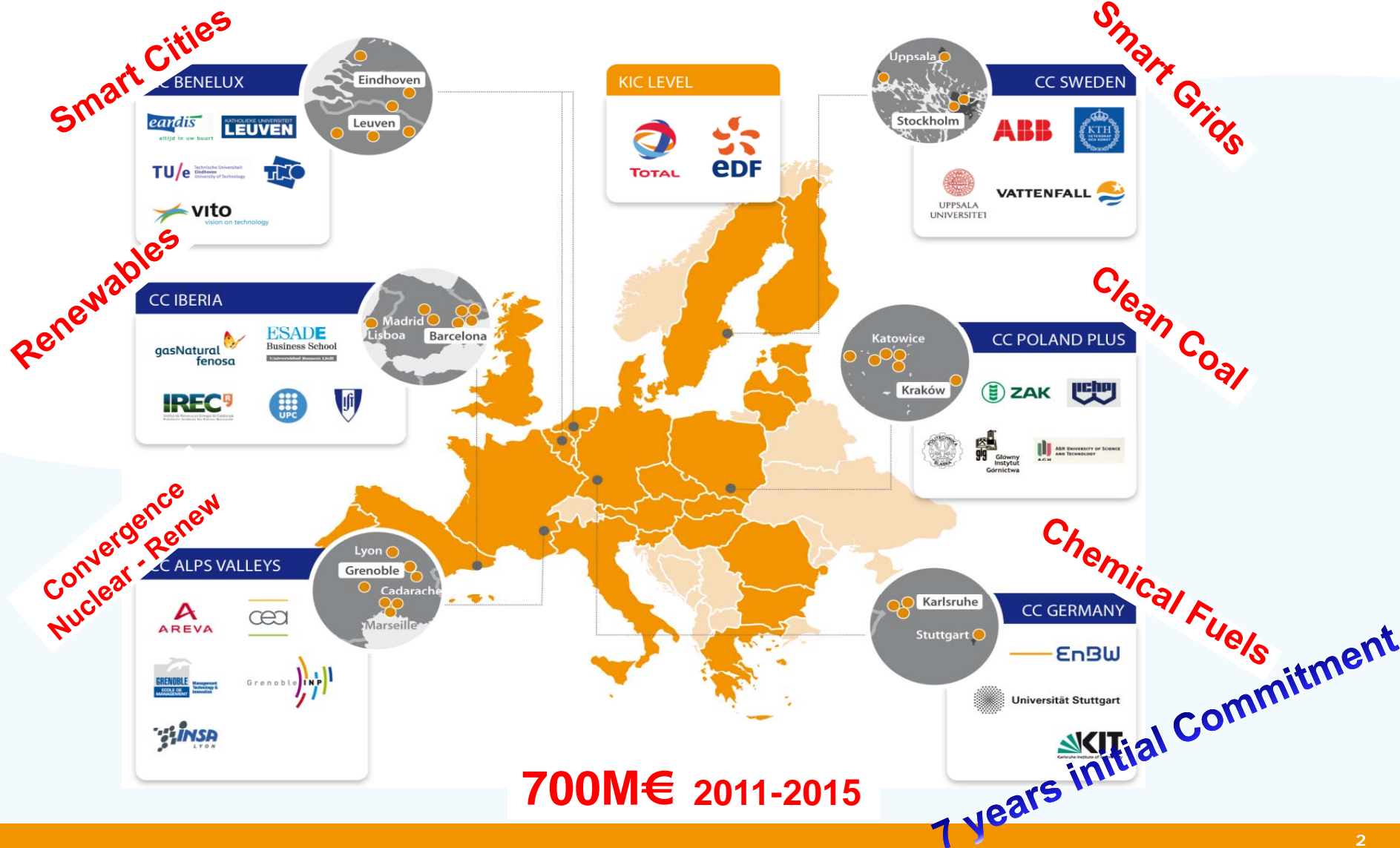
Copenhagen, 25th June 2012

Diego Pavía - CEO

KIC InnoEnergy – Reminder (1/1)



The leading engine for innovation and entrepreneurship in Sustainable Energy



7 Keywords for KIC InnoEnergy



1. **Research is transforming money into knowledge, Innovation is transforming knowledge into money**
2. **Market pull, thinking in the “customer”**
3. **Impact oriented**
4. **Unique Selling Proposition in all activities**
5. **Excellence**
6. **Long term financial Sustainability**
7. **A company run as a company**

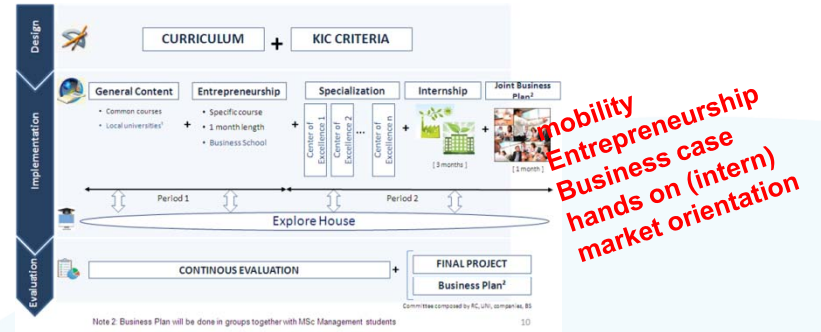
Achievements since incorporation

Tangible results since incorporation in December 2010 [18 months]



Education
Technology
Business Creation

146 students in our 120 ECTS Masters*
28 engineers in our PhD School
21 professionals in our Exec. programs



| Patent identifier | Title | Patents register | | | | | | | | | | |
|-------------------|--|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | Priority | IPC Class | IPC Class | IPC Class | IPC Class | IPC Class | IPC Class | IPC Class | IPC Class | IPC Class | IPC Class |
| X | RIC-MS: New technology to enable automatic, in-the-field calibration of a wide variety of voltage and current sensors in power grid-like applications. Expected filing: Q4 2011 | X | X | X | X | X | X | X | X | X | X | X |
| X | SECOI-T2.3: Method for utilization of low-concentration gas mixtures of combustible gas and air with stable heat energy recovery and flow-regulated device for implementation of the method. | X | X | X | X | X | X | X | X | X | X | X |
| X | SECOI-T5: Novel design of membrane module for O2A generation | X | X | X | X | X | X | X | X | X | X | X |
| X | SECOI-T2.3: Combination of two multi-bio-chemical catalysts | X | X | X | X | X | X | X | X | X | X | X |
| X | NewFuel: C4.3.2.1.1. Patent application (EU, US, JP) on „Process for the preparation of conductive carbon layers on powdered supports“, W/O 2010/03157 A2 | X | X | X | X | X | X | X | X | X | X | X |
| X | COOLCAT: CO-3. The multi-cycle driver of plant biomass: chopped straw, oil cake, manure and green for energy processes, and other fibre waste of agricultural production. | X | X | X | X | X | X | X | X | X | X | X |
| X | INPACAT: Improved Reactor and Process for production of high-purity methanol from synthesis gas | X | X | X | X | X | X | X | X | X | X | X |
| X | INPACAT: Improved process for production of methanol | X | X | X | X | X | X | X | X | X | X | X |
| X | FUEL FLEX: A method for converting C1-C4 into high-value hydrocarbons | X | X | X | X | X | X | X | X | X | X | X |
| X | FUEL FLEX: Use of perfume composition composition as fuel | X | X | X | X | X | X | X | X | X | X | X |
| X | Combustion engines and burners that guarantee safety, efficiency and durability. | X | X | X | X | X | X | X | X | X | X | X |
| X | INSTRIC: Substation Automation via LTE-secured communication and evaluation. | X | X | X | X | X | X | X | X | X | X | X |
| X | Smart Grid Materials: Method for deposition of nanomaterial coating on electrical circuit resistors | X | X | X | X | X | X | X | X | X | X | X |
| X | HTTET: Method to produce HTET consisting of at least one independently movable part. Filed patent EP 20 750 827 B-2/122 | X | X | X | X | X | X | X | X | X | X | X |
| X | HTTET: Design of TEG (Stator in progress) | X | X | X | X | X | X | X | X | X | X | X |

11 patents filed (1/1M€, 1/67M€ in FP7)
23 new technology products & services

52 ventures nurtured in our Highway*

| RIC metrics to entrepreneur | Activities Deliverables | KIC Strategy Performance | | | | | | | | | | | | |
|-----------------------------|-------------------------|-----------------------------|-----------------------------|--|-----------------|-----------------------|-------------------|-----------------------------|------|------|---------------|------|---------------|------|
| | | Agreement signed with legal | Innovation early investment | Market competition assessment (IP, commercial) | Team assessment | Technology assessment | Market assessment | Team stability & motivation | IP/C | IP/C | Business Case | IP/C | Business Plan | IP/C |
| Method/Process/Model | Method/Process/Model | | | | | | | | | | | | | |
| Concept/Process/Model | Concept/Process/Model | | | | | | | | | | | | | |
| Method/Process/Model | Method/Process/Model | | | | | | | | | | | | | |
| Method/Process/Model | Method/Process/Model | | | | | | | | | | | | | |

Four dimensions:
 1. Human
 2. Technology
 3. Market
 4. Finance

Achievements 2011 => impact in short term future

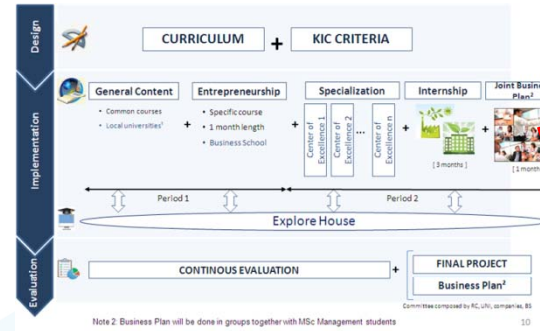
Tangible results since incorporation in December 2010 [18 months]



Education
Technology
Business Creation

146 students in our 120 ECTS Masters*
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Game changers



mobility
Entrepreneurship
Business case
hands on (intern)
market orientation

| Patent identifier | Title | Patents register | | | | | | | | | |
|-------------------|--|------------------|-------|--------|----------|---------|----------|----------|--------|-------|-------|
| | | Patent | Trade | Design | Software | Biotech | Chemical | Material | Energy | Other | Other |
| X | RIC-ABS: New technology to enable automatic in the field calibration of a wide variety of voltage and current sensors in power grid-like applications. Expected filing: Q4 2011 | X | X | X | X | X | X | X | X | X | X |
| X | SECOH-T2.3: Method for utilization of low-concentration gas mixtures of combustible gas and air with stable heat energy recovery and flow-regulated device for implementation of the method. | X | X | X | X | X | X | X | X | X | X |
| X | SECOH-T9: Novel design of membrane module for O2A generation | X | X | X | X | X | X | X | X | X | X |
| X | SECOH-T2.3.3: Development of the multi-bio-chemical catalytic | X | X | X | X | X | X | X | X | X | X |
| X | NewFuel: D-4.2.1.1. Patent application (EU, US, JP) on „Process for the preparation of conductive carbon layers on powdered supports“, W/O 2010/03157 A2 | X | X | X | X | X | X | X | X | X | X |
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| X | INPACAD: Substation Automation via LTE-advanced for better evaluation. | X | X | X | X | X | X | X | X | X | X |
| X | INPACAD: Method for detection of non-material coating on electrical circuit breakers | X | X | X | X | X | X | X | X | X | X |
| X | HTTFC: Method to produce HTTFC consisting of at least one independently movable part. EP 20 750 827 B-2/122 | X | X | X | X | X | X | X | X | X | X |
| X | HTTFC: Design of TFC stacks in progress | X | X | X | X | X | X | X | X | X | X |

IP agreement reached!!
10% of foreground licensing goes to KIC!!

11 patents filed (1/1M€ + 67M€ in FP7)
23 new technology products & services

Competitiveness
Growth
Jobs

52 ventures nurtured in our Highway*

Growth
Jobs

| Activities/Deliverables | KIC Strategic Objectives | | | | | | | | | | | | | | | | |
|-------------------------|-----------------------------|-----------------------------|--|------------------|-----------------------|-------------------|----------------------------|-----|---------------|-------|---------------|---------------------------------|---------------|------------------|-------|---------------|-----------|
| | Agreement signed with legal | Innovation early assessment | Market readiness assessment (IP, commercial) | Trial assessment | Technology assessment | Market assessment | Team building & capability | POC | Business Case | Pilot | Business Plan | Agreement for commercialization | Subsidization | Start-Up capital | OT/OP | First revenue | Valuation |
| Market/Process/Model | | | | | | | | | | | | | | | | | |
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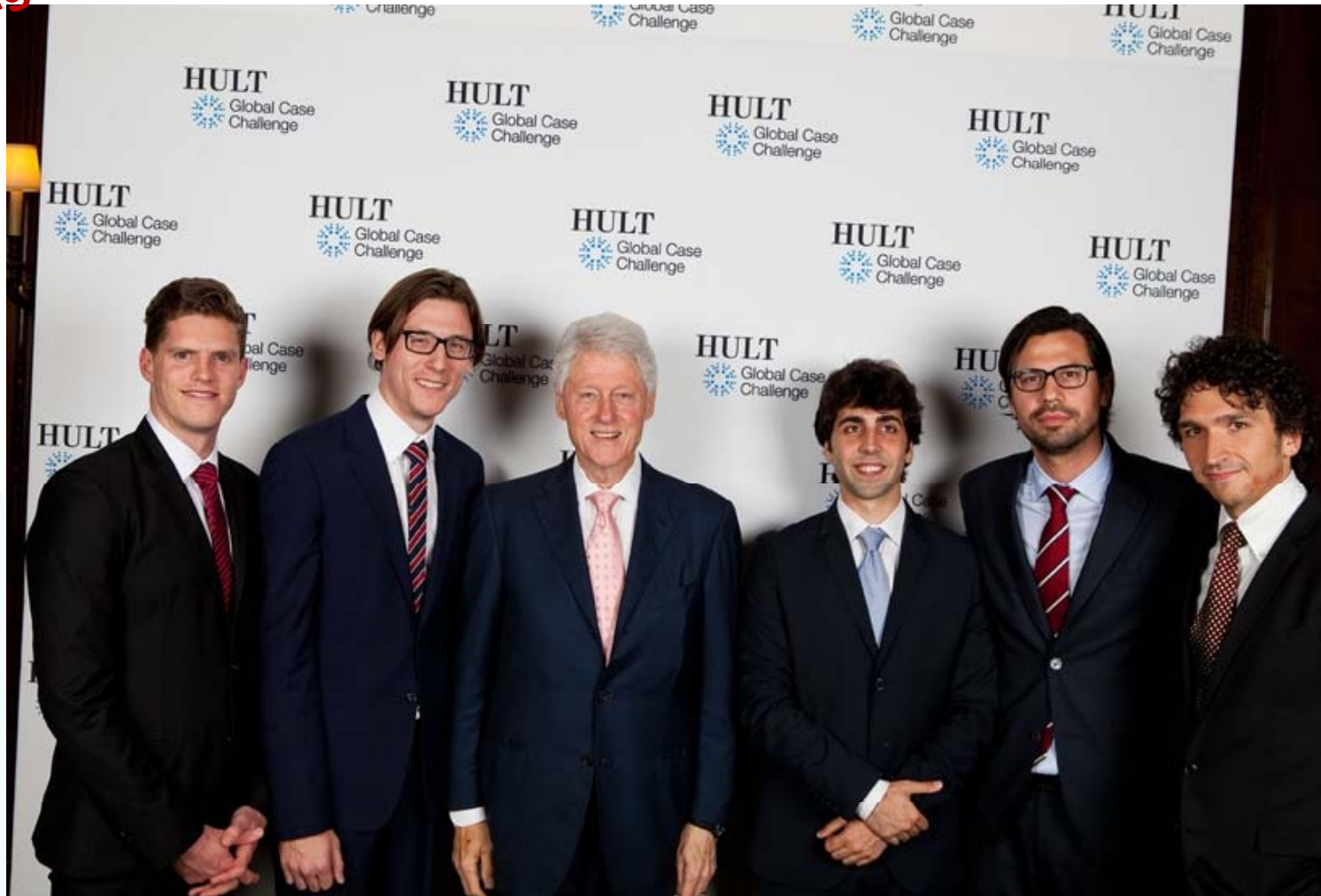
Four dimensions:
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 4. Finance

A proof: Some of the game changers of the future



Beating top schools WW

HULT Global Case Challenge 2010 intake SELECT Students 2nd Prize April 2012



Market pull, thinking in the end customer



Only industry heavy involvement and leadership legitimizes us

Presence in partnership (from **14** in 2010 to **55** in 2011 to **95** in 2012)

| CC Germany | CC France | CC Benelux | CC Iberia | CC Poland | CC Sweden |
|--------------------------------|---------------|----------------------|--------------------|--------------------------------|-----------------|
| AVA-CO2 | Acerde | Ares RTB | Cidete | BPTE | ABB |
| Bauer Holzenergie | Amcor | BIC Industries | EDP | EdF Polska | Cortus |
| Boson | Aperam | BTG Woris B.V. | ESADE | Eko GAW | Elforsk |
| Drexel & Weiss GmbH | Areva | CG Holdings | Gas Natural Fenosa | Kwant | Energyxperts |
| DVGW-EBI | Batscap | Cofely Refrigeration | Iberdrola | MALEX | Ericsson |
| E-Flox | Disatech | Delft Patents BV | RobCork | Metal ERG | Fortum |
| EIFER | EDF | DSM | SgurrEnergy Ltd. | Multichem ECO | Green Exergy AB |
| EnBW Energie | ERAS-Labo | Eandis | SIMO | PGNIG SA | Seabased |
| Evohaus GmbH | GDF Suez | MTT | Tecnologia | Promont | SP |
| IDS | Grain2 | NXP | Termo Fluids | Rafako | Stri |
| LignoGen | Gravit | Peer + | Wavec | SIF-PAS | Technion |
| Modinger | Irysolar | Progression | | Syngaz | Wattenfall |
| Outotec GmbH | Luxol | Saint Trofee | | Tauron | |
| statfisch Analysen Systeme Gmb | McPhy | Solvay | | | |
| Steinbeis | Plastipolis | Terra Energy | | | |
| TTI GmbH | Raigi | Triphase | | | |
| Viessmann | Schneider | Van Looy Groep | | | |
| | SCT | Waifer | | | |
| | SITA | | | | |
| | S'tile | | | | |
| | Top Industrie | | | FFPP | |
| | Total | | | Private owned partners in 2011 | |
| | Vinci | | | Private owned partners in 2012 | |

Coverage of all value chain
 Coverage in all nodes
 Covering all activities

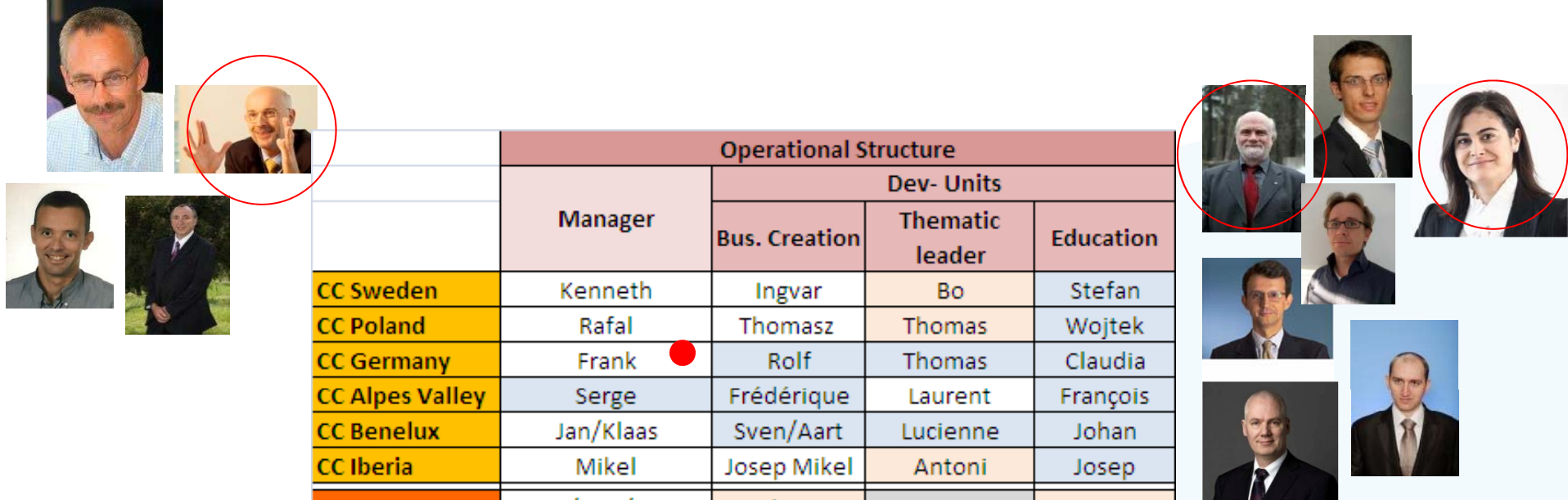
A company run as a company



| | Operational Structure | | | |
|-----------------|-----------------------|---------------|-----------------|-----------|
| | Manager | Dev- Units | | |
| | | Bus. Creation | Thematic leader | Education |
| CC Sweden | Kenneth | Ingvar | Bo | Stefan |
| CC Poland | Rafal | Thomasz | Thomas | Wojtek |
| CC Germany | Frank ● | Rolf | Thomas | Claudia |
| CC Alpes Valley | Serge | Frédérique | Laurent | François |
| CC Benelux | Jan/Klaas | Sven/Aart | Lucienne | Johan |
| CC Iberia | Mikel | Josep Mikel | Antoni | Josep |
| KIC | Arne/Bart/Diego | Elena ● | | Torsten ● |

**Run as a company
Business Process in place
Scalability assured**

**Executives used to run
500M€ companies**





KIC InnoEnergy

*A new **Innovation engine**, output oriented*

Fully **aligned** with the **SET plan**

Complementing other instruments

Integrating Education, Research and Business (**KT**)

*A **company run as a company***