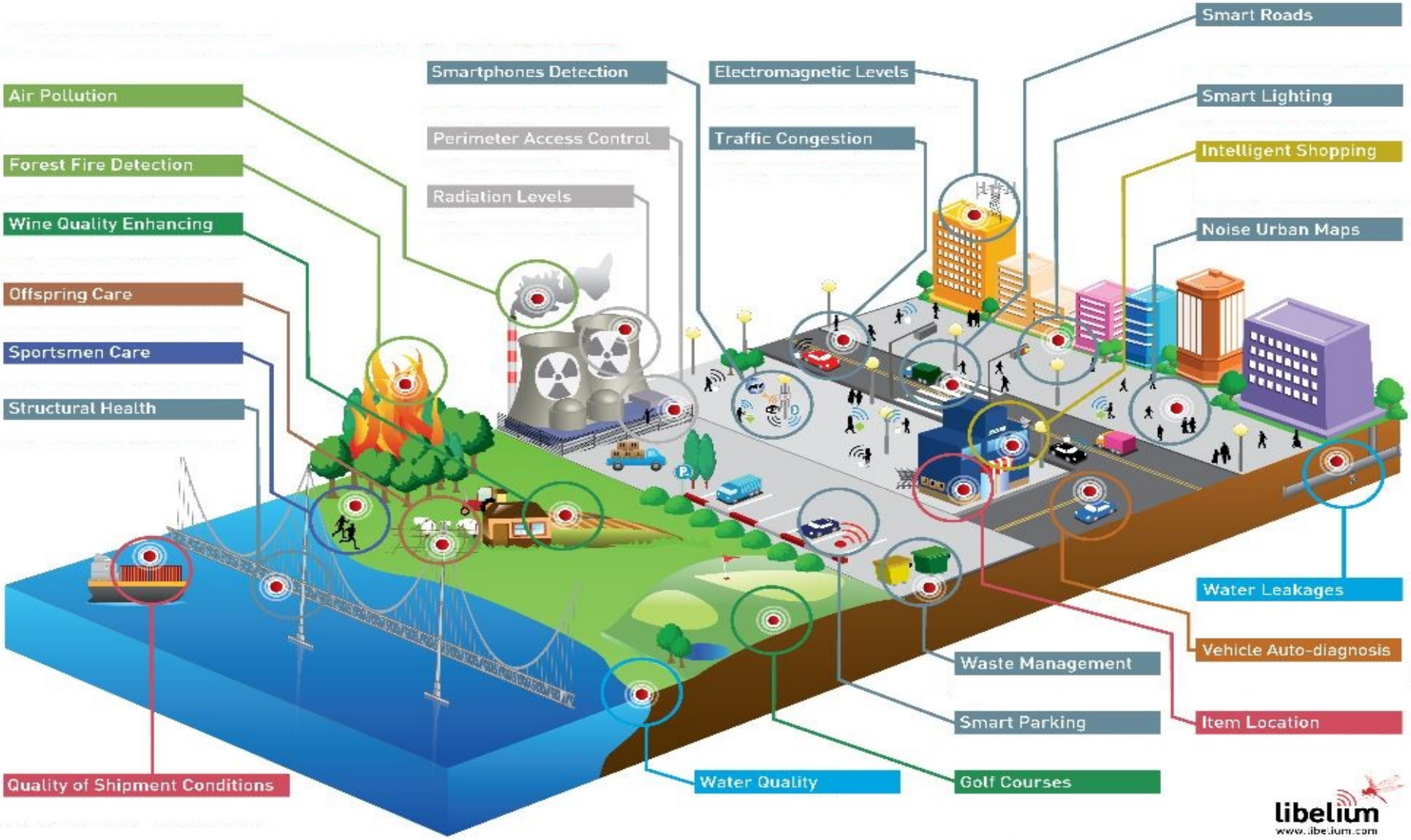
EU-US Industry and Academic Co-operation on Smart Cities

Haydn Thompson
THHINK Group



The smart cities market size is estimated to grow from USD 312.03 Billion in 2015 to USD 757.74 Billion by 2020

Academia

- Research is about putting ideas together and creating new ideas
- Community is world-wide and connected

- Academic Culture of Collaboration
  - Collaboration between academic parties is easier
    - Knowledge exchange
    - Knowledge creation - new tools, methodologies, technologies, and publications

Industry – Collaboration (with Contract)

- Business Culture of Commercial Caution
  - Need to look for where it is (and is not possible) to collaborate
  - Reciprocity important – needs to be win-win
  - Knowledge ownership concerns (real and perceived), particularly when the collaborations involve many industrial participants

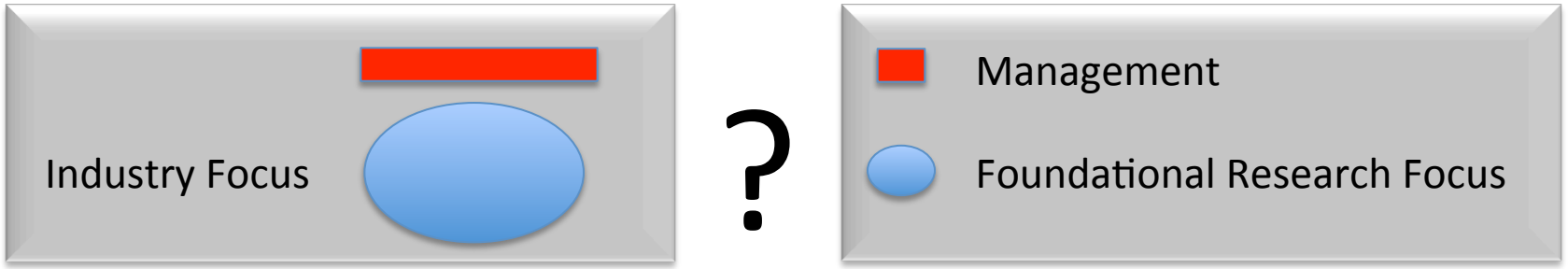
Why Collaborate?

A	• Joint papers, roadmaps, and/or workshops
A	• Exchanging and integrating tools
A	• Technique and methodology development
AI	• Pooling/access to data/databases and sharing of models
A	• Linking of models between groups
A	• Applying theoretical models to specific applications
I	• Contribution to specification of standards and unification of terminology
I(D!)	• Development of common platforms
A	• Development of common infrastructure
A	• Opportunity to attract new funding based on collaboration

Key
A = Academia
I – Industry
D! – Difficult!

Much more incentive for academia to collaborate

Funding Goal and Management Mismatch



- The EU generally funds larger projects at relatively high levels. Projects are more focused on developing and delivering new products and services. This concentration on exploitation of results places stronger emphasis on generation and protection of IPR. The overarching goal is to generate new economic value and the projects are much less focused on creating new scientific knowledge.
- Generally, US funds, e.g. NSF, fund individual and group research projects at relatively small levels. NSF funds are provided via grants not contracts and are driven by generation of scientific knowledge.
- Approach tends to be once EU project funded, US party looks for funding to join project (this is after the Consortium Agreement is in place so difficult to add a US partner).
- Differences are visible in funding agency approaches, in project management practices including project assessment, in project size, in expectations concerning the partnership with end-user and stakeholder communities, in research methodologies (R&D emphasis - research emphasis), and in expectations concerning dissemination and exploitation of the results.
- Awareness of these differences leads to more realistic expectations and to better planning/agreement. Need to understand and respect the delivery deadlines of work-package milestones/reports.

Successful Collaboration

- Collaboration comes down to personal relationships – Need “trust”, particularly for industry who operate in competitive environment
- Collaboration tends to happen between companies and research teams who have worked together (or know each other) before. It is easy to continue existing collaborations but difficult to start new ones.
- If partners do not know each other collaboration needs to be “loose" in the beginning, e.g. meetings/workshops where ideas, results, frameworks, models, theories, methods, tools, etc. are discussed.
  - Technical Workshops are a good way of facilitating co-operation and building trust
  - With time the relationship "deepens" with higher ambition for joint work
  - At least two years of collaboration are needed for a significant project
  - The more collaborating projects match, the better the results that will be achieved
- Need to be able to link EU and US collaboration (and funding) to other sources of funding if longer and/or deeper collaboration is needed going to higher TRL’s

What is needed

- Collect and disseminate best collaboration practices between EC/US projects – raise awareness
- Identify and work on topics of common interest where reciprocity is possible – win-win
- It is important to bridge between the expectation of the partners both academic and industrial
- Plan and support earlier joint or synchronized events, visits, exploratory workshops and meetings that pave the way for future collaborative research proposals – build trust
- De-construct the IPR barrier myth – make it clear to industry that this is not an impossible hurdle
- Implement an automatic funding mechanism on the US side whereby decision to assign funds corresponds to contract award for EU project? (This may need supporting with some common evaluation procedures).

Possible Approaches

- Bilateral agreement per country with US
- Exchange of students (Marie-Curie)
- Grand challenge – need to define, e.g. autonomous cars
- Data sharing – e.g. smart cities
- Joint Project (FET?) - Academic (e.g. NSF-EU)
  (Call in EU, US partner no funding but funded later if successful – no harmonisation of call timing)
- LEIT – Academic/Industry EU side – Academic US side funded by NSF (need to comply with CA) – Joint Evaluation
- LEIT – Academic/Industry EU side – Industry US side funded by appropriate agency or industrial (need CA) – Joint Evaluation