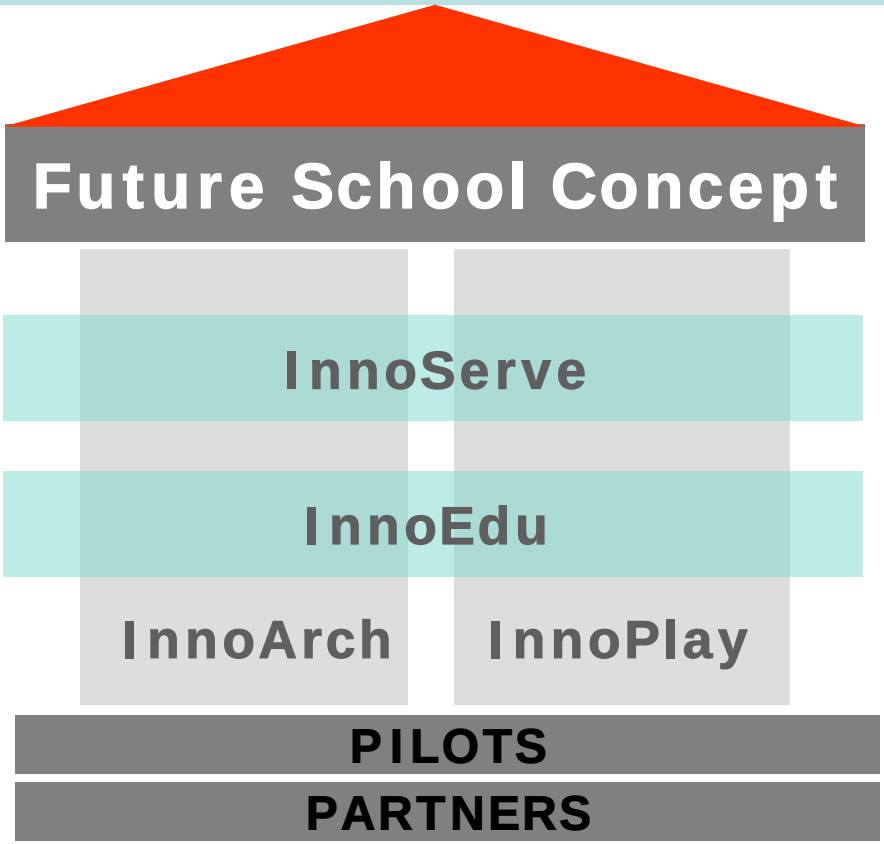
InnoSchool Consortium

Innovations in Architecture, Playful Learning, Education and Services for the

Future School



InnoArch

Places and Spaces for Learning

Helsinki University of Technology
Department of Architecture
Laboratory of Urban Planning and Design

InnoArch Research Goals

Primary Goal

to deepen the understanding of the interrelationship between a spatial experience and a meaningful learning process (TSL)

Secondary Goal

to develop a collaborative, inquiry based planning and design process for the future school

InnoArch Contribution

New environmental design principles, concepts and models, which

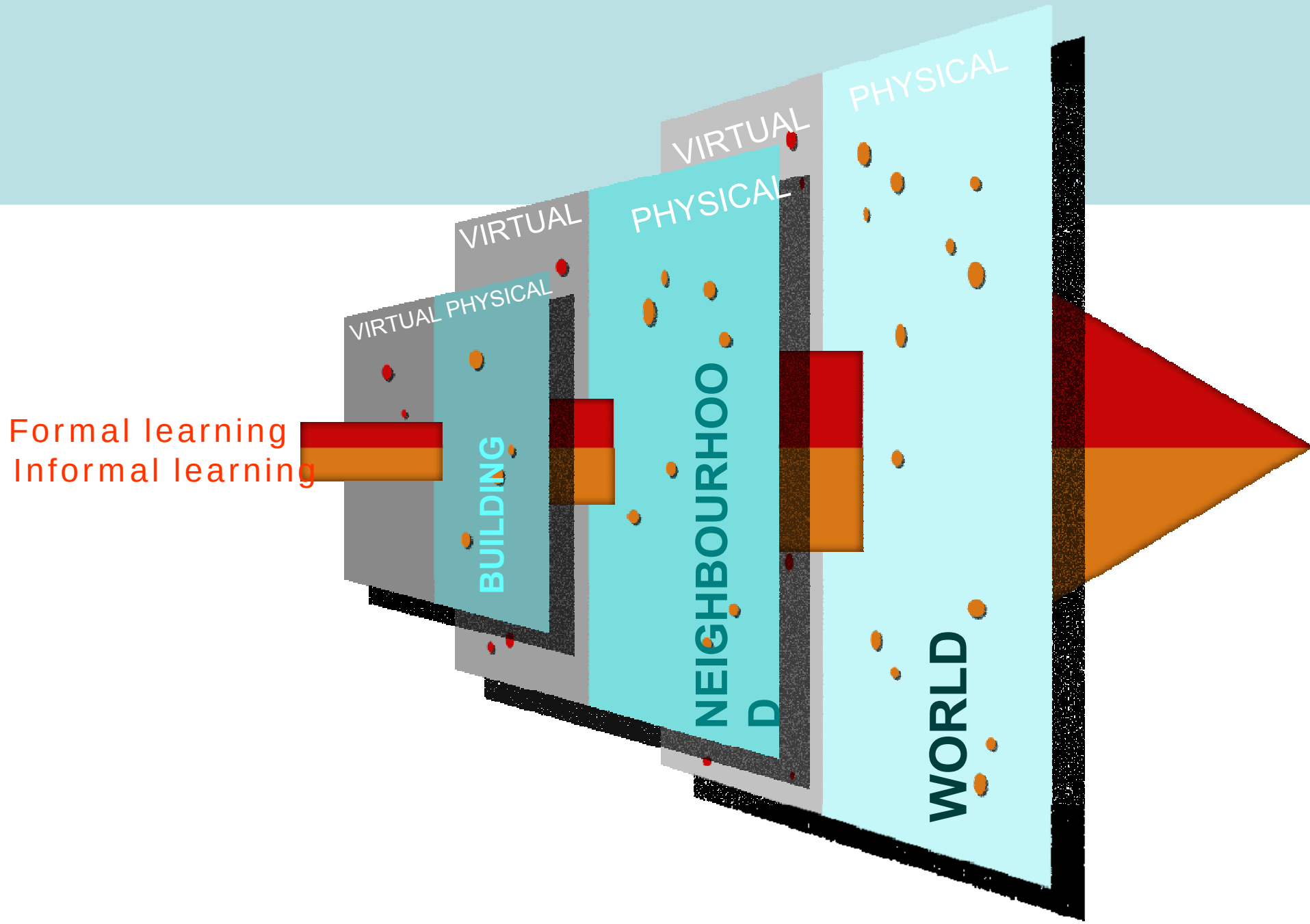
- support inquiry based learning and pupils´ epistemic agency by means of architecture as well urban planning and design,

- exploit interactive technological applications in the architecture and construction of physical and virtual places for learning,

- strengthen the role of school as a central actor in a learning community and,

- promote shared understanding of our urban space.

Taloustieteellisen
Ekonomföreningen


Formal learning
Informal learning
VIRTUAL PHYSICAL
BUILDING
VIRTUAL
PHYSICAL
NEIGHBOURHOOD
VIRTUAL
PHYSICAL
WORLD

InnoArch Research Matrix

Process / Spatial Dimensions	Inquiry Based Learning (TSL)	Inquiry Based Planning & Design
School Building (Local)	How do different pedagogical processes **take place in** school buildings? What is the meaning of space experience in learning?	How to plan and design the future school and a learning neighbourhood as a participative process?
Neighbourhood (Urban)	How can the neighbourhood environment serve as a cross-curricular theme?	
World (Global)	How to promote cultural understanding between children around the world in different urban environments?	
Virtual	How can technology (GIS, mobile positioning, neighbourhood websites) serve as a mediating element between the school and the neighbourhood and the world wide network of children in different neighbourhoods?	How to integrate technology into the architecture and construction of places for meaningful learning?

InnoArch Architectural Concepts

Place & Mapping

Place-based approach to pedagogical processes: mapping or taking place

The definition of place:
Locale, Position, Functions and Intensity

Space & Experience

Architectural/spatial analysis of the building and of the neighbourhood

Space experience on each environmental scale goes with all senses

InnoArch Indoor Studies

Focus on the school building itself and its immediate sphere of influence in different learning situations:

- **School as a spatial experience: mapping and monitoring the use of Arabia School together with InnoEdu**
- **24 usability in Arabia School**
- **Comparative study in Stanford ´Loft´, Center for Design Research (CDR)**

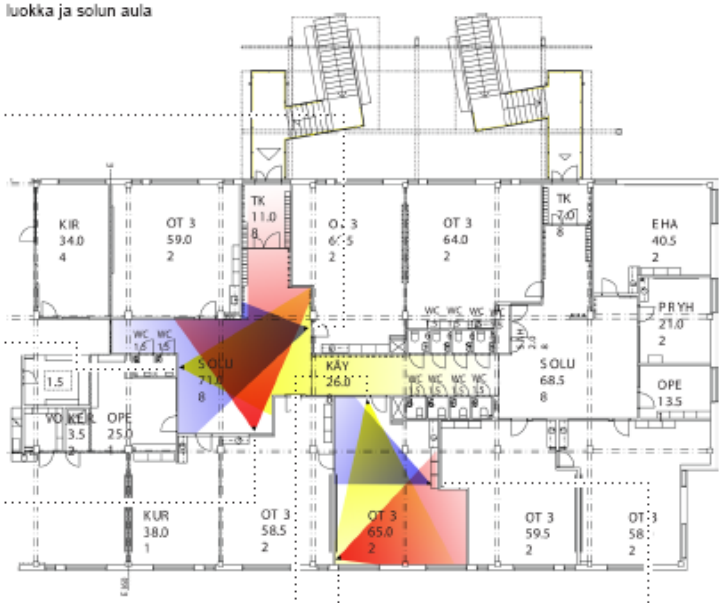
InnoArch Indoor Studies

SA-3

SA-1

SA-2

Kamerat, viikko 1/2:
luokka ja solun aula



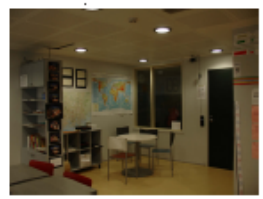
- Class of 24 pupils
- Age 10

- Video monitoring
- Diver™ analysis

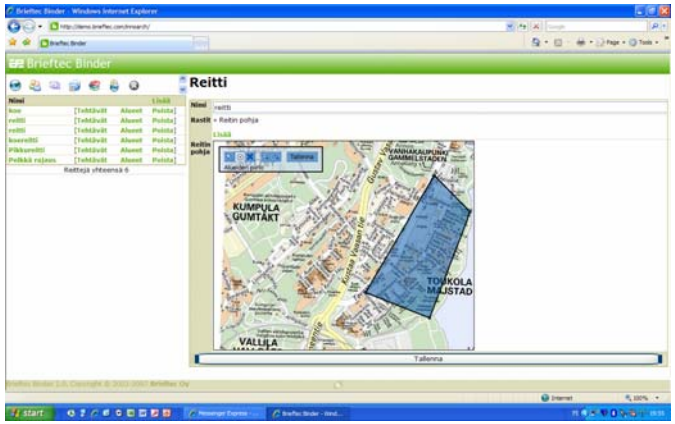
L-1

L-2

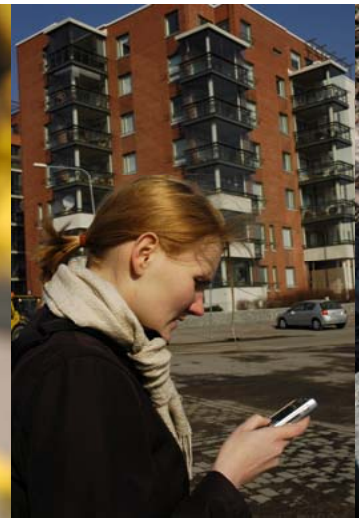
L-3



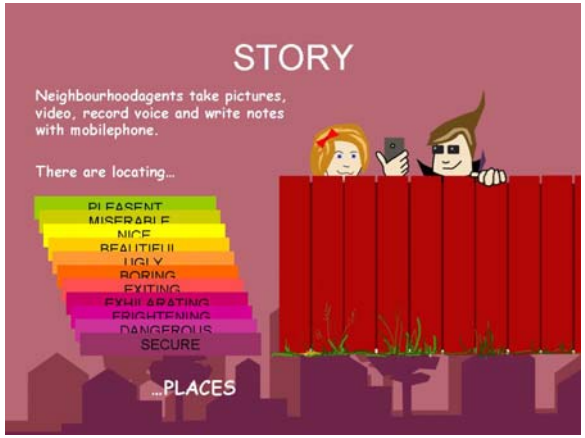
InnoArch Outdoor Studies



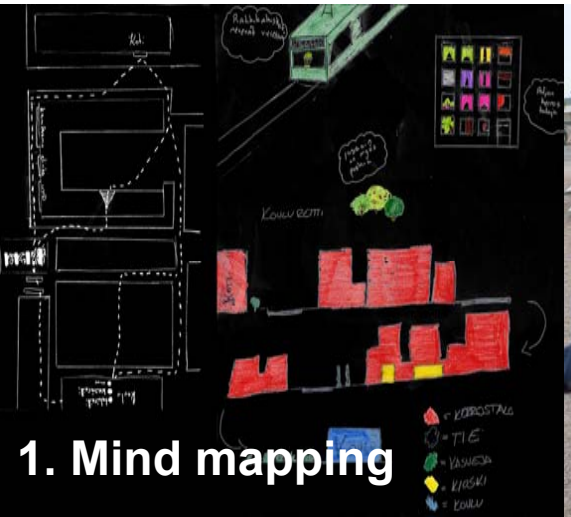
Neighbourhood level environmental study by using mobile phone, GPS logger, Brieftec Binder soft ware and Google Earth maps



InnoArch Outdoor Studies



Asking children about their perceptions, experiences and moving in the neighbourhood


1. Mind mapping

2. Mobile mapping

3. Interview

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Image © 2007 DigitalGlobe
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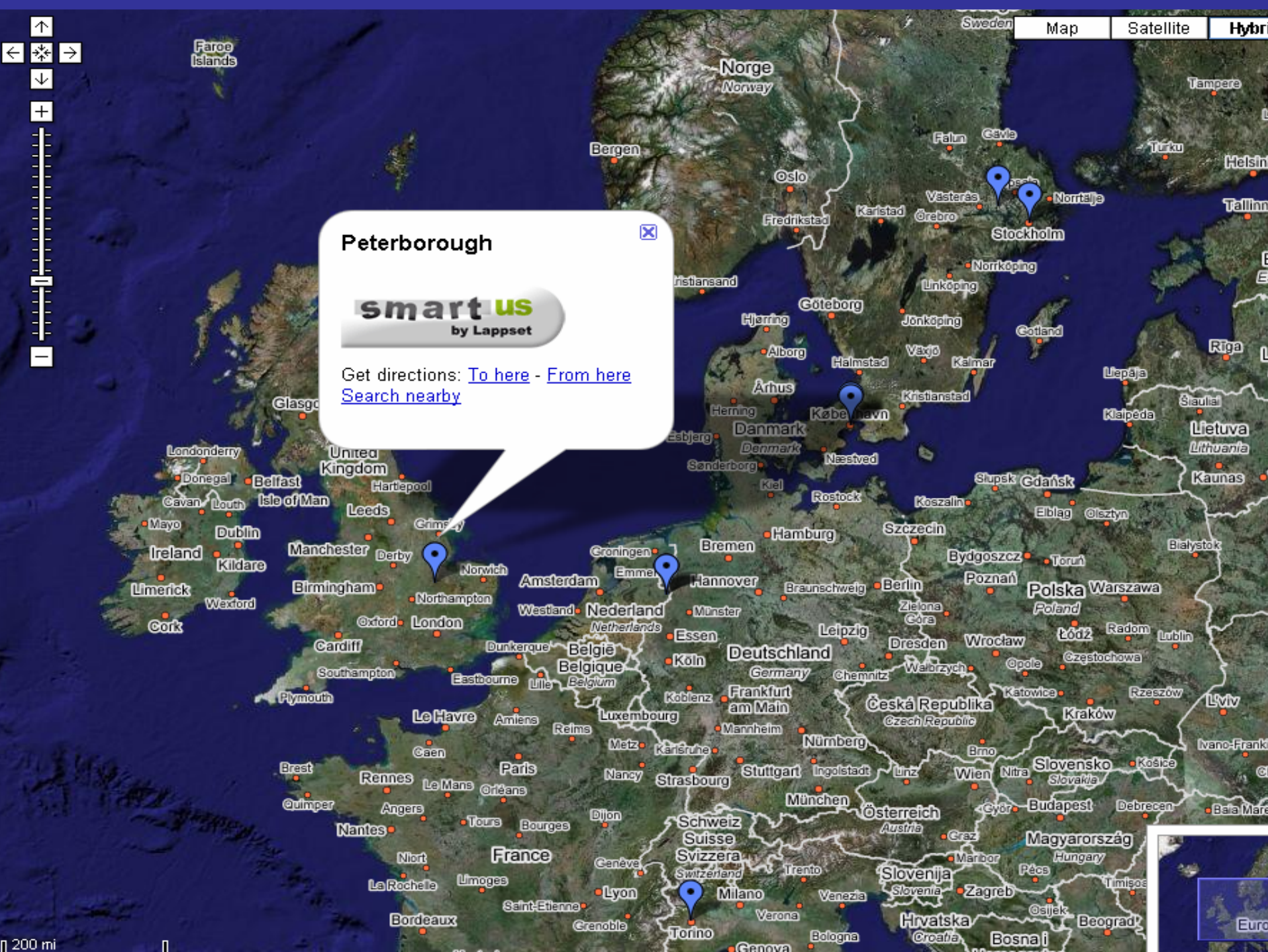
Map
Satellite
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Peterborough
smart us
by Lappset
Get directions: To here - From here
Search nearby
Faroe Islands
Norge
Norway
Sweden
Bergen
Oslo
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Falun
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Turku
Helsin
Västerås
Norrtälje
Karlstad
Örebro
Fredrikstad
Stockholm
Tallinn
Norrköping
Linköping
Göteborg
Jönköping
Gotland
Riga
Hjørring
Alborg
Halmstad
Växjö
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Le Mans
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Niort
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Trento
Slovenija
Slovenia
Zagreb
La Rochelle
Limoges
Lyon
Milano
Venezia
Saint-Etienne
Osijek
Bordeaux
Grenoble
Verona
Hrvatska
Croatia
Beograd
Torino
Bologna
Bosna i
Genova
200 mi

InnoArch Global Studies

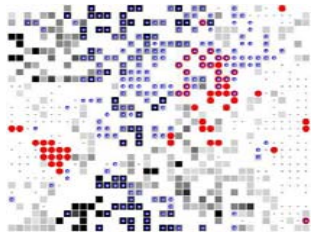
Mapping the cultural landscapes of learning

Utilizing the
Lappset SmartUs network

Helsinki
Rovaniemi
Stockholm
Enköping
Petersborough
Santa Barbara
Torino
...

Vision:
Website for children´s environmental agency; bringing together children´s perceptions and experiences in their daily environment

InnoArch Global Studies



www.smartus.com

Twofold goal:

To strengthen the epistemic agency of school children in their daily environment

To get comparative qualitative data from culturally different environments

Helsinki University of Technology
University of Helsinki
University of Lapland
Stanford University
University of California, Santa Barbara (UCSB)

InnoArch benefits

Municipalities

City of Espoo; City of Helsinki; City of Rovaniemi

- piloting the idea of “a learning neighborhood”

  (mapping the formal and informal elements of learning in a neighborhood level and visualizing the learning network)
- developing the collaboration between architectural and pedagogical expertise in planning and designing learning environments

  (building level, urban level)
- developing school networks (Village School Network)

InnoArch benefits

Industrial partners

Microsoft, Elisa, Lappset Group Ltd., Martela, Cramo Instant

- producing new spatial and architectural concepts for school buildings (design concepts, modularity, flexibility, integrated smart technology, furniture, etc.)
- testing mobile technology and positioning soft ware in connection with learning processes
- reflecting the research results to the existing future school concepts

InnoArch benefits

Dissemination partners

National Board of Education; Finnish Forest Industries Federation

- developing new spatial concepts for inquiry based learning
- studying local environment as a cross-curricular theme
- evaluating the new building design standards for future schools (RT Building Information File)
- promoting the use of wood in the architecture of learning