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Knowledge &
Innovation
Community

EIT ICT Labs





Thematic Action Line Health and Wellbeing - Improve the quality of everyday life ...

Sophia Antipolis, September 19, 2011

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Thematic Action Line Health and Wellbeing

- Improve the quality of everyday life ...

Improve the quality of everyday life ...



EIT KIC ICTLabs TAL HWB ...

What does this mean ...

EIT → **European Institute of Innovation and Technology**

KIC → **Knowledge and Innovation Communities**

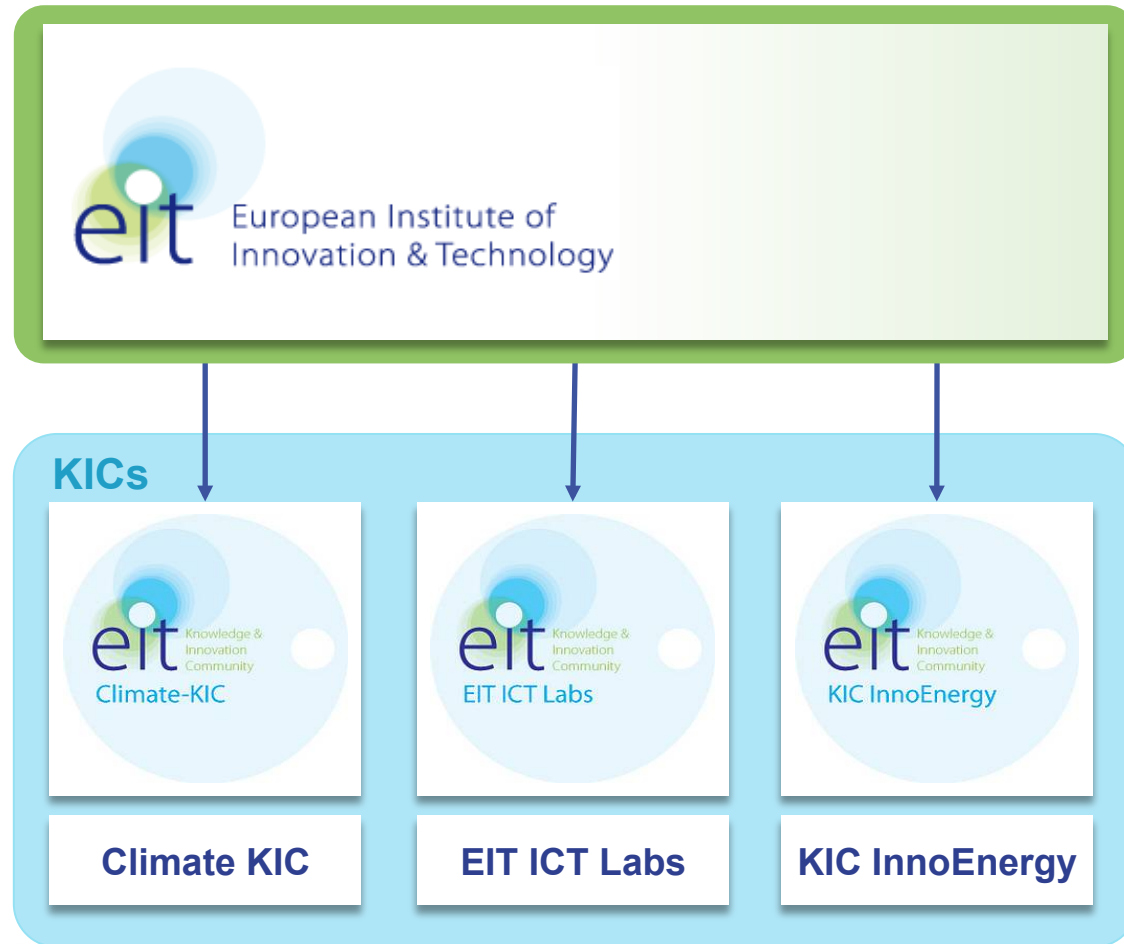
ICTLabs → **The selected ICT KIC of the first EIT call for KICs**

TAL → **Thematic Action Line**

HWB → **Health and Wellbeing (NOT HealthCare)**



The European Institute of Innovation & Technology is a reality





...and so is EIT ICT Labs: established and in operation!

EIT ICT Labs Association - the „KIC legal entity“ at the European level - has been established



Five **Co-location Centres** have been established



The **contractual framework** has been finalized and the **signatory process** was completed on December 13th, 2010



Business and **Work Plans** 2010 and 2011 have been delivered to and approved by the EIT



Implementation of planned work via action lines has started



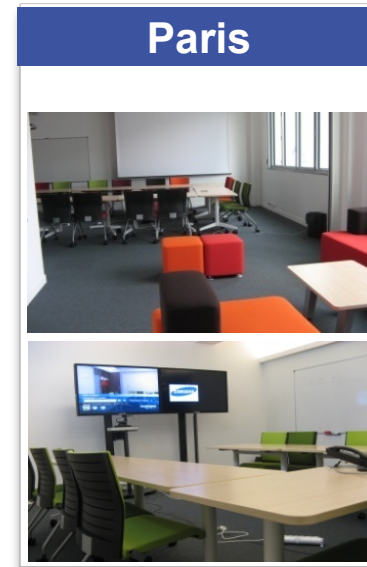


EIT ICT Labs operates from 5 core nodes and 3 associate nodes

-  EIT ICT Labs Node
-  Associated Partners



Co-location Centres will play a catalysing role in the execution of our activities



- Physical meeting and project space for EIT ICT Labs activities
- Nodes are connected through quality video-conference equipment
- Focal point for the national partner network
- Venue for local and KIC-level events



ICT is drastically changing our lives



The way we connect



The way we travel



The way we work



The way we age healthily

Blending of digital & physical world



Today

Tomorrow



EIT ICT Labs' mission is to turn Europe into a global leader in ICT Innovation

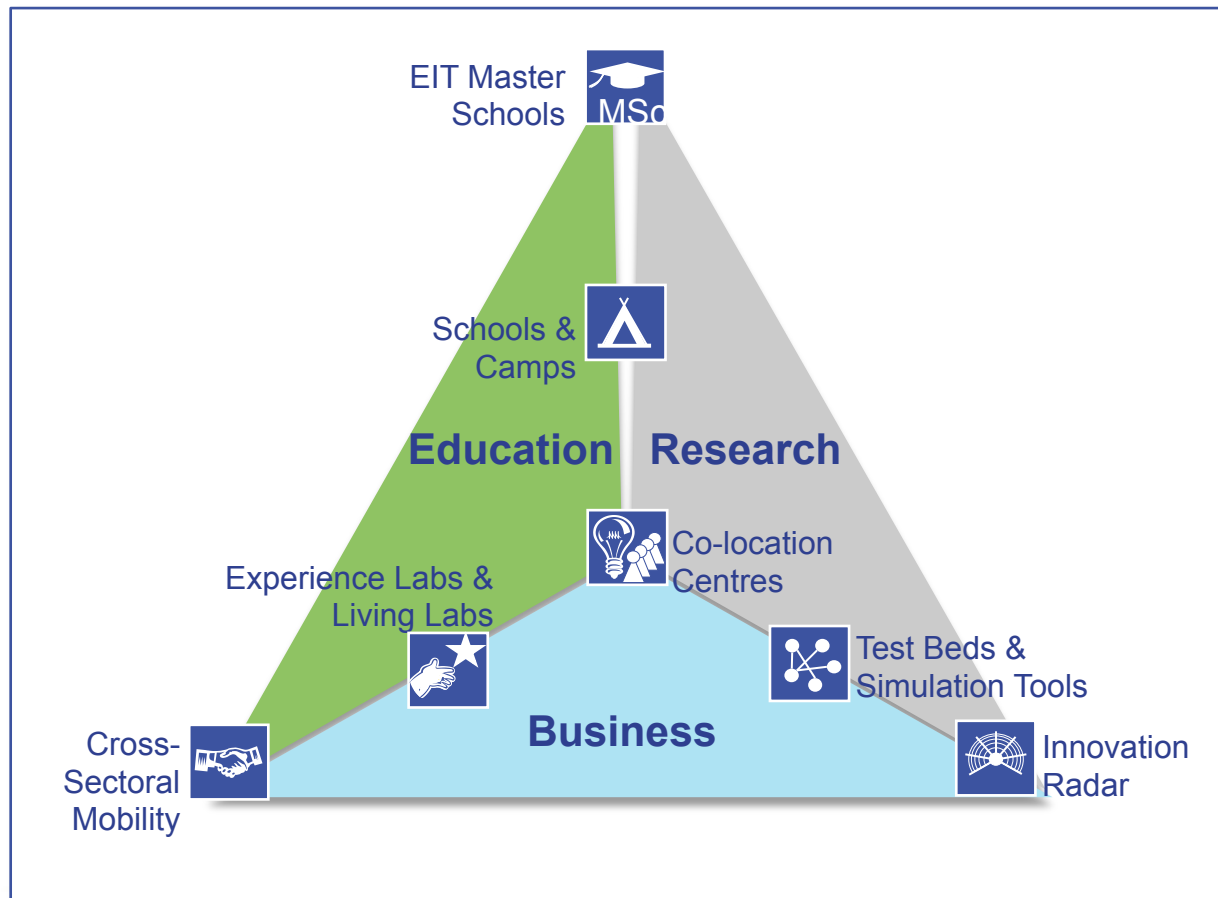
Breed entrepreneurial ICT top talent via the transformation of higher education to promote creativity and entrepreneurial spirit

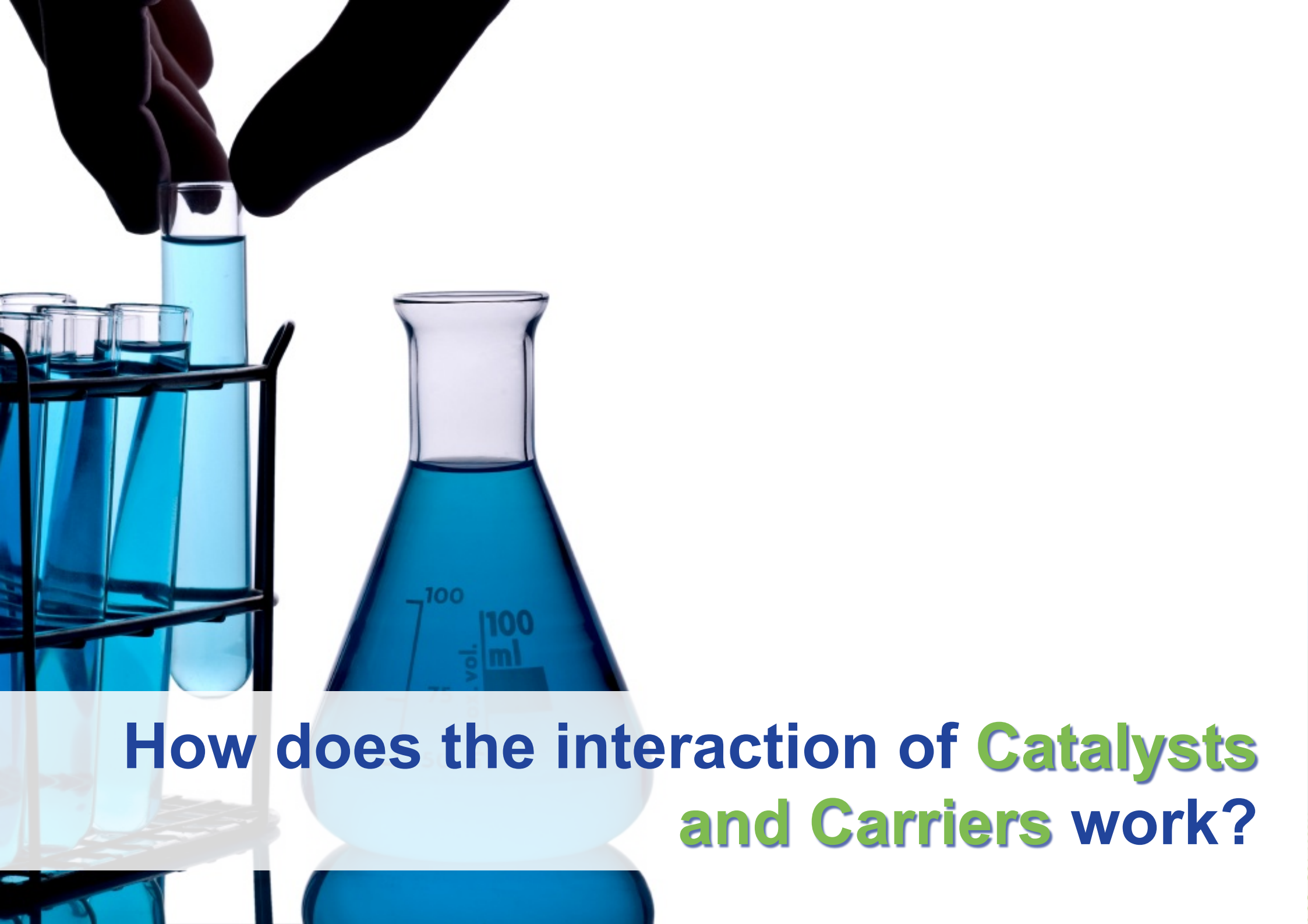
Speed up ICT innovation by **bringing people together** from different countries, disciplines and organizations via mobility programs and Co-location Centres

Generate world-class ICT business via broader and faster valorisation of research results



Our strategy integrates all dimensions of the Knowledge Triangle

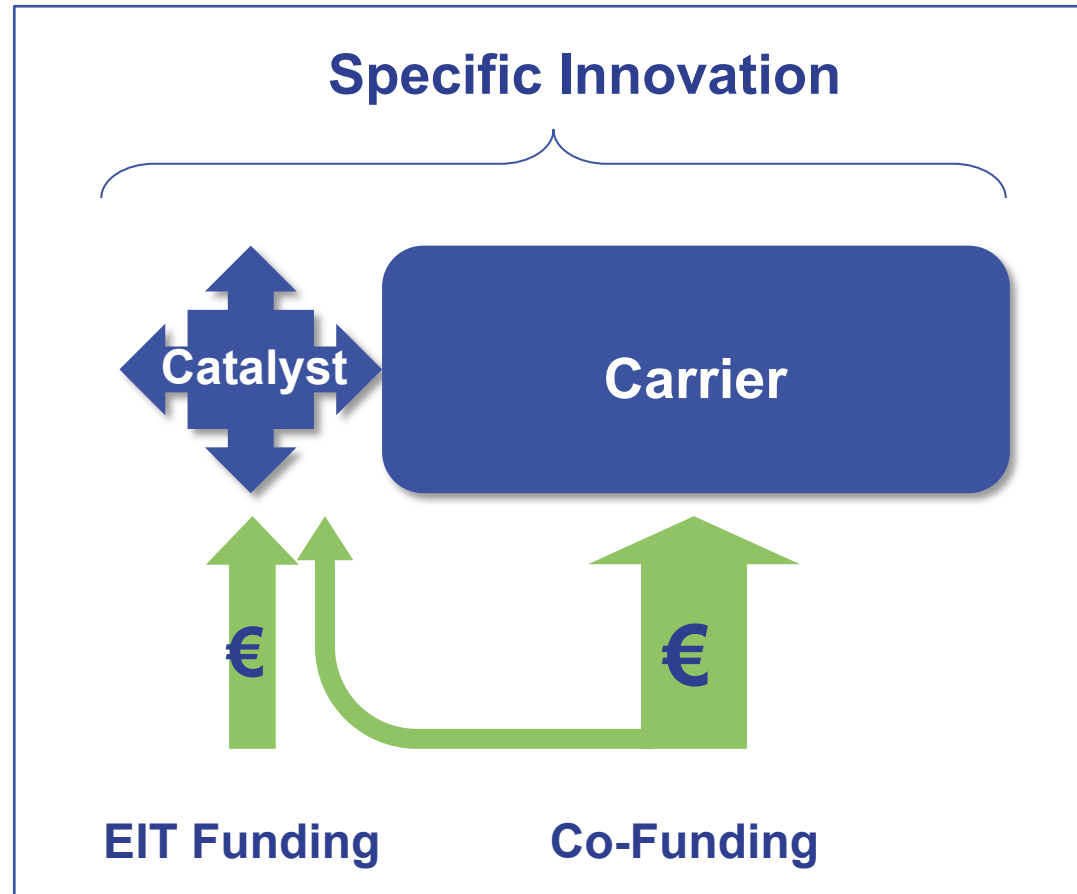




How does the interaction of **Catalysts** and **Carriers** work?

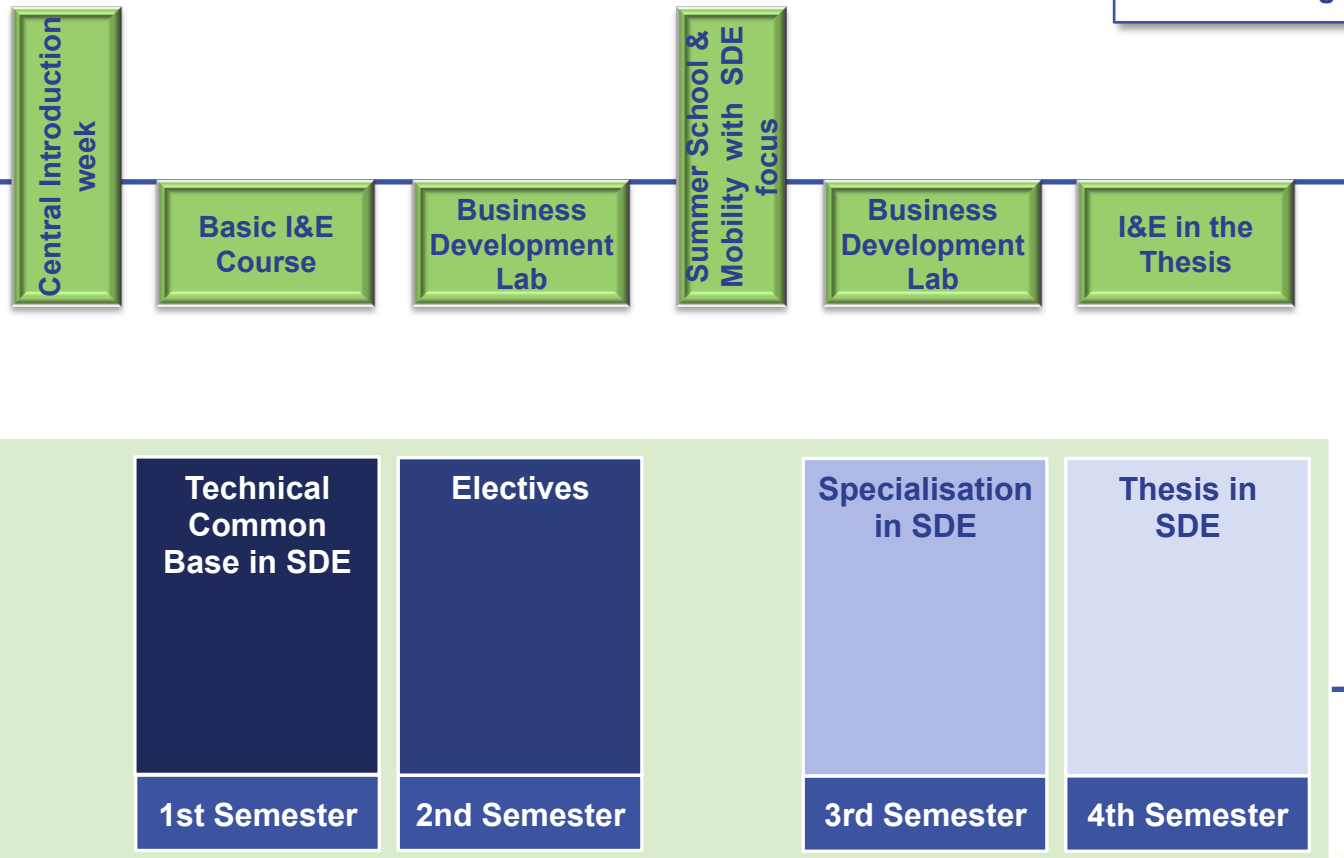
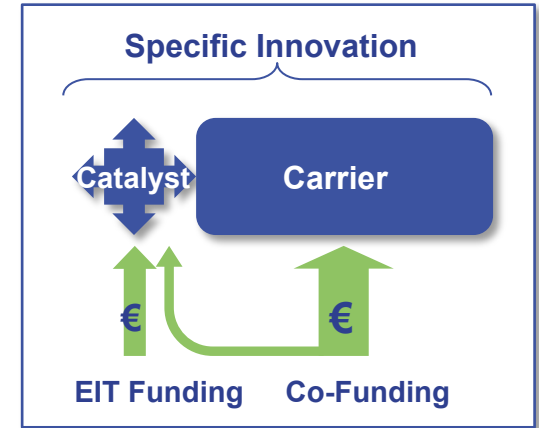


The Catalyst-Carrier model is key in our approach



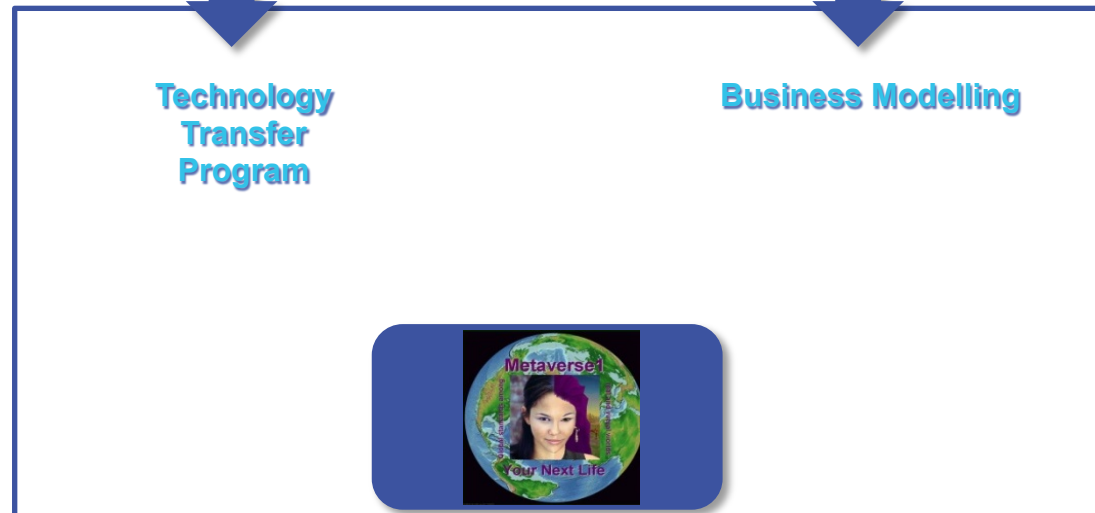
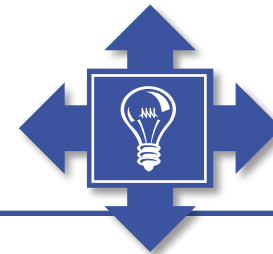
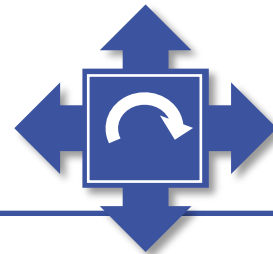
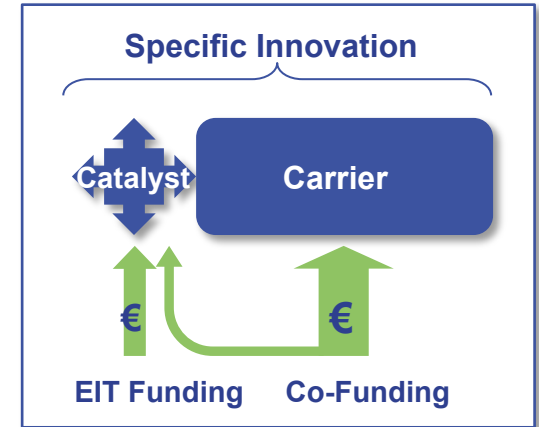


Education Example: SDE Master Program





Combined Research & Business Example: Business Modelling & Technology Transfer Program



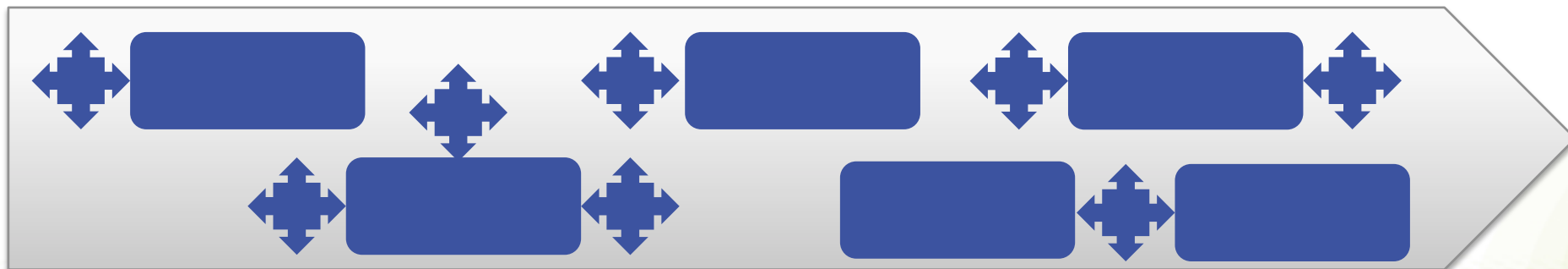
ITEA Project
Metaverse



Action Lines are coherent sets of Actions

An **Action Line** has

- an **objective** that contributes to the ICT Labs strategy
- a coherent **set of innovation actions** contributing to the action line objective
- a major and quantifiable **innovation impact**
- a European dimension **involving multiple** ICT Labs **Nodes**
- an **Action Line Leader** who supervises the activities within the Action Line





Our Thematic Action Lines bring ICT innovation to specific markets



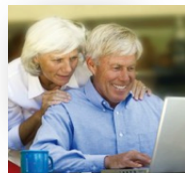
Smart Spaces

- intelligent environments that facilitate everyday practices
- create richer user experiences & enhance the users' awareness of local opportunities in a resource and cost efficient way



Smart Energy Systems

- increasing energy efficiency via ICT enabled power grids
- energy efficient ICT solutions - green ICT



Health & Wellbeing

- Development of ICT enabled services supporting a cost effective sustainable healthy lifestyle
- ambient assisted living



Digital Cities of the Future

- ICT enabled solutions in the areas of security, pollution, transportation, and resource management (e.g. water).



Future Media and Content Delivery

- Development of powerful and open ICT infrastructure, capable of delivering rich data-intensive media and content storage services, at competitive costs, across administrative domains, ensuring quality of service



Intelligent Transportation Systems

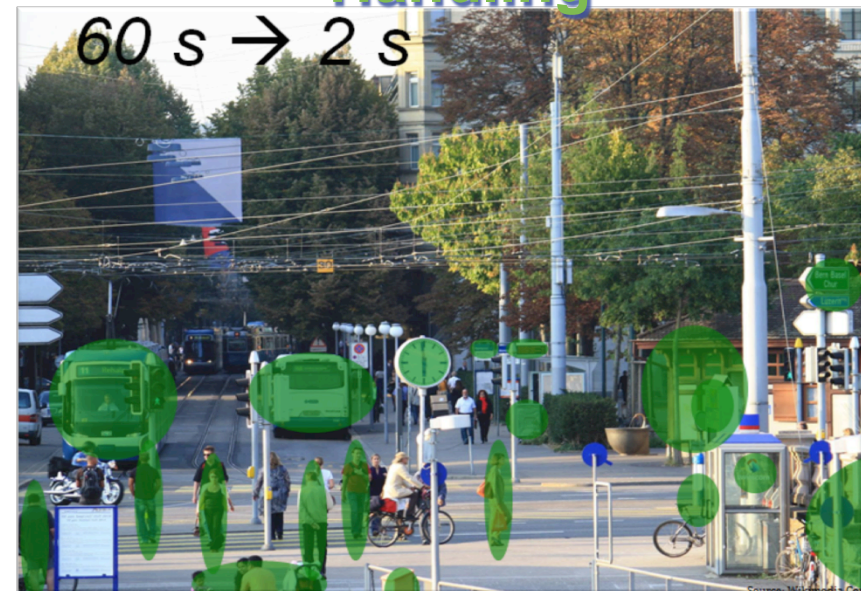
- Services for people using all kinds of transportation systems

Smart Spaces addresses the challenges of intelligent environments

Cyber Physical Interaction

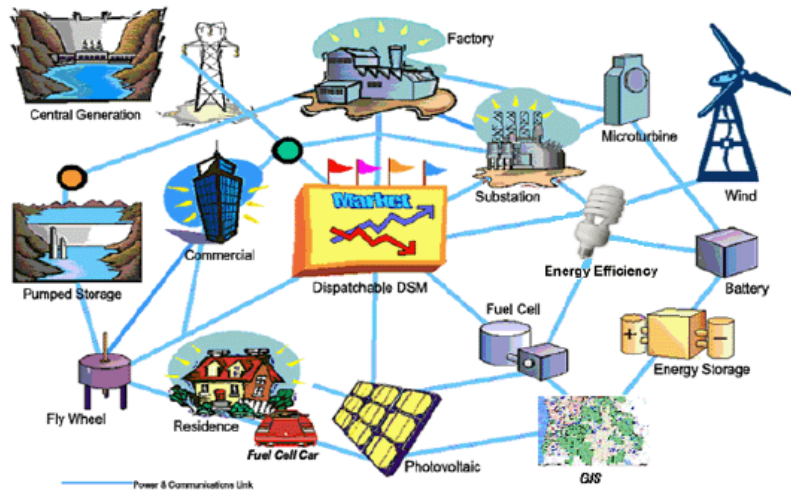


Near Real-Time Event Handling



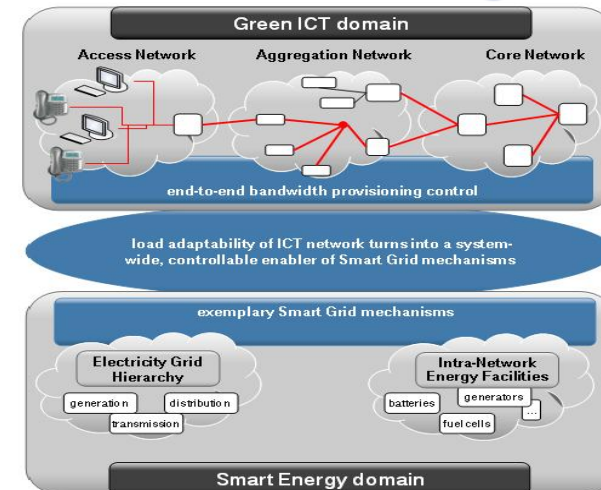
Smart Energy Systems addresses the challenges of Smart Grid & Green ICT

Smart Energy Management



- Future Scenarios & SES Experience Labs
- Smart Grid Management (Technical & Control Systems)

Green ICT Management



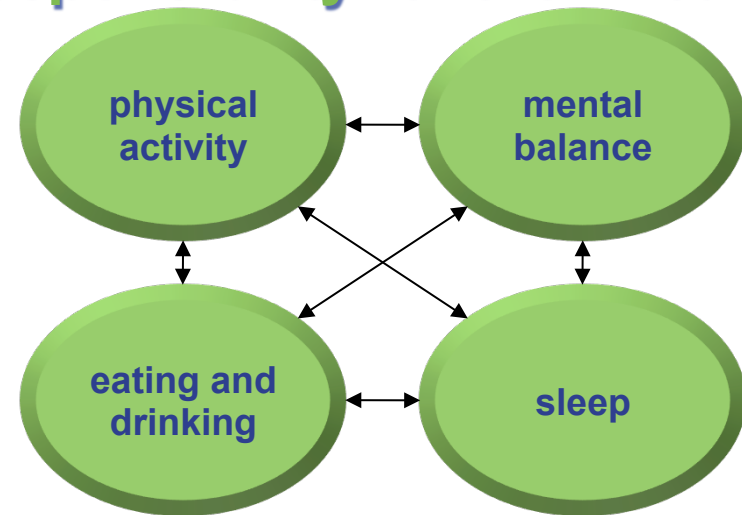
- End-to-End Smart Grid & Green ICT Management

Health and Wellbeing addresses primary prevention for HWB

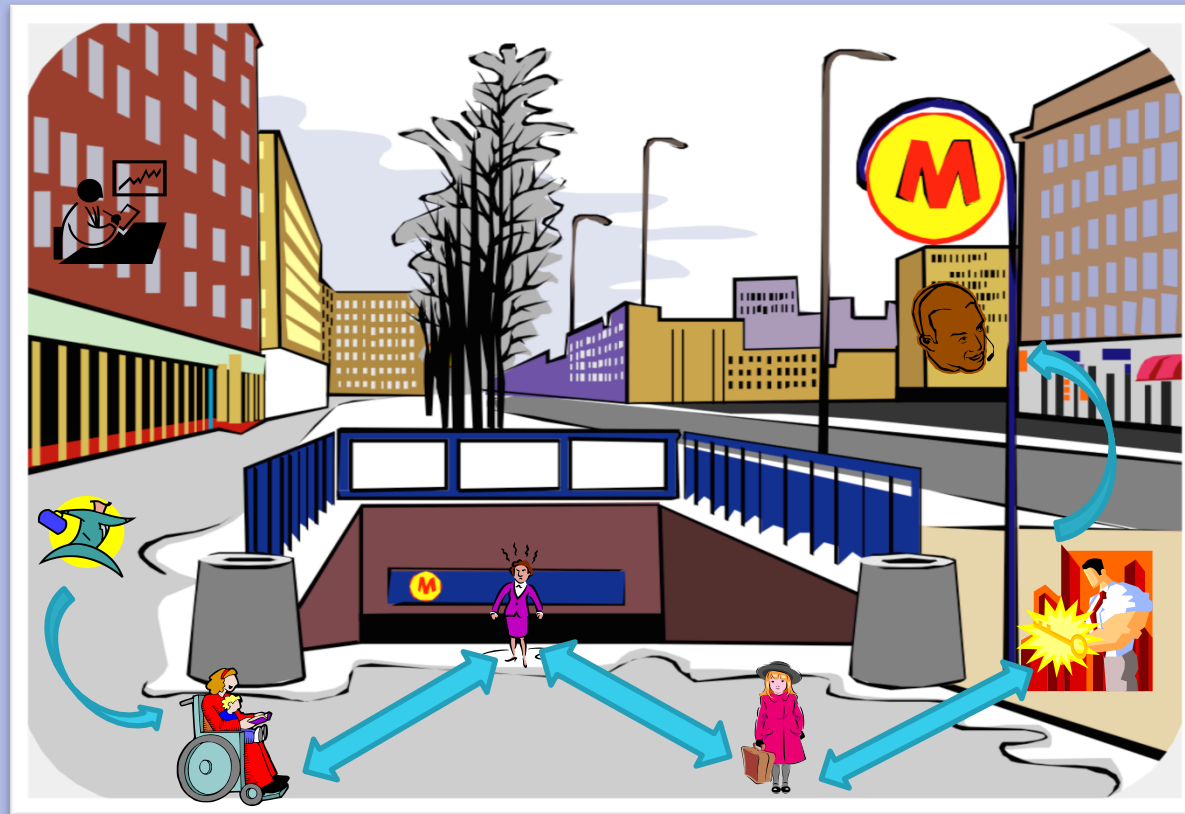
The threats of today's demanding society



Empowering people to find balance and assume responsibility for their health



Digital Cities will provide Citizen-Centric City environments



Enabling the city space to become more democratic towards a citizen centric model

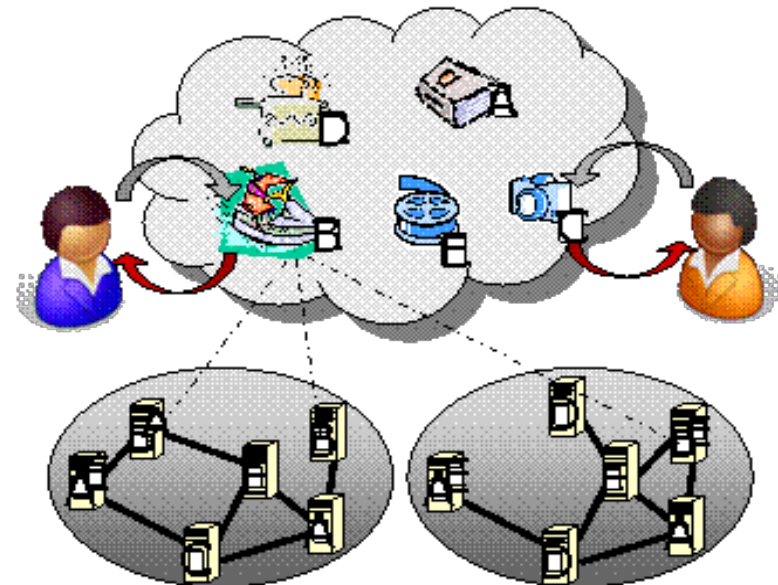
Future Media and Content Delivery

addresses the challenges of bringing media and content to the consumer

Rich future media to and from any device



Cost effective content delivery



Intelligent Transport Systems addresses opportunities and challenges of mobility



Safe Mobility
Sustainable Mobility
Autonomous Mobility
Affordable Mobility



Thematic Action Line Health and Wellbeing

- Improve the quality of everyday life ...



Improve the quality of everyday life ...

Why do we want to do this ...

- People more and more want to take responsibility of their own health and wellbeing ... (empowerment / self management) ...**
- To deal with societal & economical challenges ...**
 - An aging population suffering (for a longer period) from multiple chronicle diseases (including a growing fraction of mental diseases*) ...**
 - A growing demand on healthcare with exploding budgets (while being in an economic crisis) ...**
 - A lack of qualified personal ... (NL situation, extra demand of 500K (> 10% of total labor force) by 2025 (ZIP)) ...**

•The WHO (World Health Organization) predicts depressive syndromes will be higher than any other health problem within 20 years (450 million people). Anti-depressant market in EU in 2010 is 4,5B€.



Improve the quality of everyday life ...

How might we be able to do this ...

We (ICTLabs) believe that ICT (ICT enabled / supported solutions) can play an important role to deal with these challenges ...

The (potential) solution being Primary Prevention (prevent the growing demand on the healthcare system) ??

However don't forget the big difference between
- primary (no incentive / reward) and - secondary
(and tertiary) prevention (big incentive / reward) ...

That's where design needs to meet with technology, shifting from the 'traditional' technology push model towards a market pull model ...

Vision of the TAL Health and Wellbeing

A holistic approach to enhancing consumer health and wellbeing ...



Health and Wellbeing is not merely a matter of preventing disease. Health and Wellbeing increasingly needs to be approached in a **holistic** way that fosters **mental** and **physical** fitness and balance. Having healthy and caring **relationships**, as well as good daily habits and **behavioral** patterns are just two of the many principles in this holistic approach.



The challenge ...

Mental balance

The thread of today's demanding society ...



Physical activity



Healthy eating & drinking

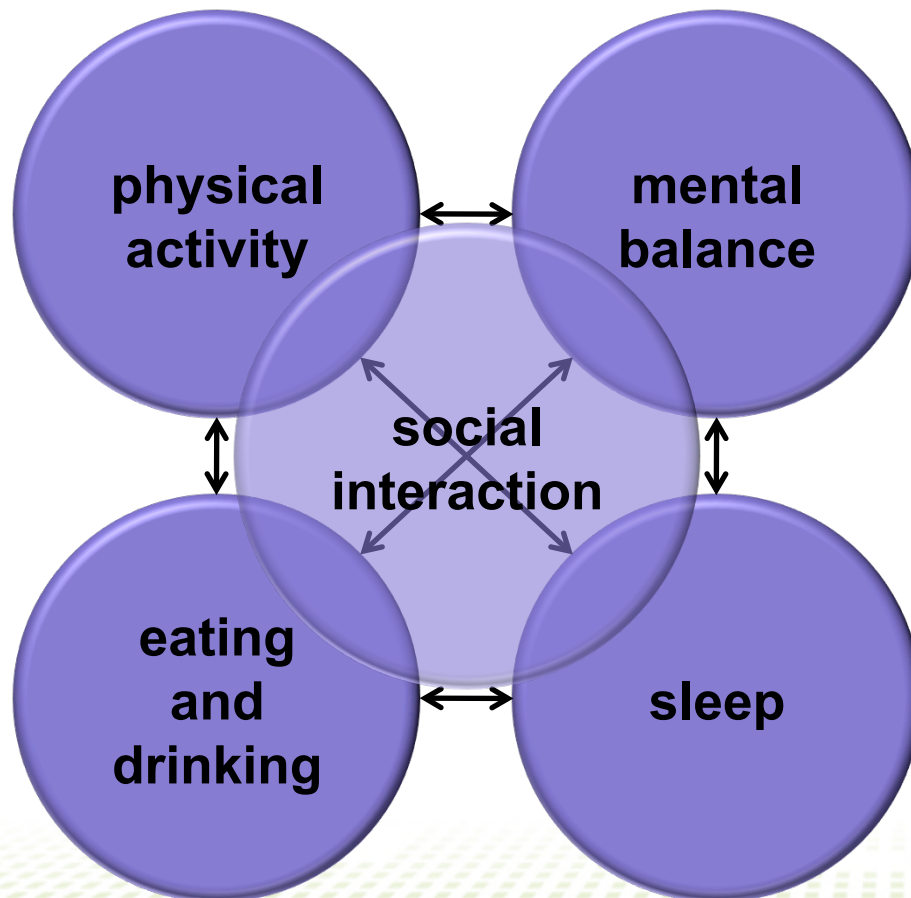


Sleeping Well



The solution ...

Empowering people to find balance and assume responsibility for their health and wellbeing.



Imagine if...

- ... your workout would be an enjoyable encounter
- ... a balanced life would not feel like a compromise
- ... sleep becomes an experience
- ... cooking could be as easy as on TV
- ... you would always feel close together



The TAL HWB approach ... (2011 actions) ...

- Creation of a test bed (service space) for health and wellbeing
- **Validated demonstrator Stress management @ work (using correlation with activities of daily life) → More details on next sheets ...**
- Validated demonstrator Stress management @ home (using buddy concept)
- Application (related to (social) interaction): Social Robot for AAL
- Validated application (related to (social) interaction): Guardian Angel for AAL
- Summer Schools to address the (business potential) of the identified 2012 innovation and business hotspots.
- Generic testing platform for wireless monitoring of the Peripheral Nervous System
- Validated application (related to (social) interaction): Guardian Angel for AAL
- Business development support



The TAL HWB Approach ... 2011 focus ...

Health&Wellbeing: Stress@Work

Led by: Natalia Sidorova, TU Eindhoven





Stress is a serious threat to our mental health and productivity in the workplace

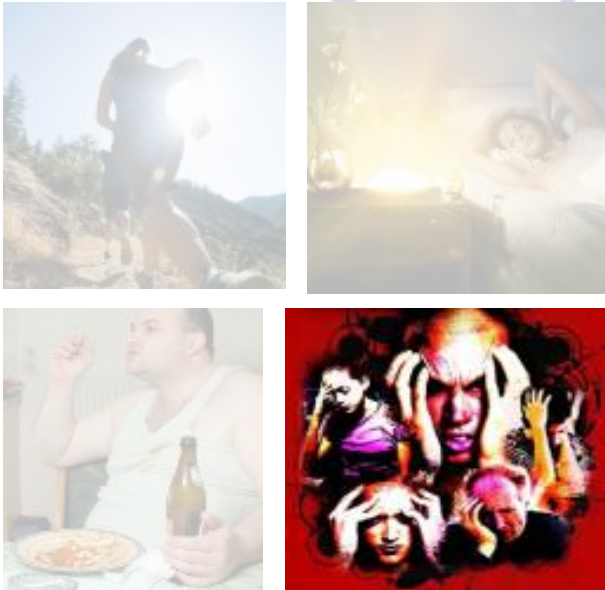
By 2020 the top five diseases will be **stress related**

In the Netherlands (2006 figures):

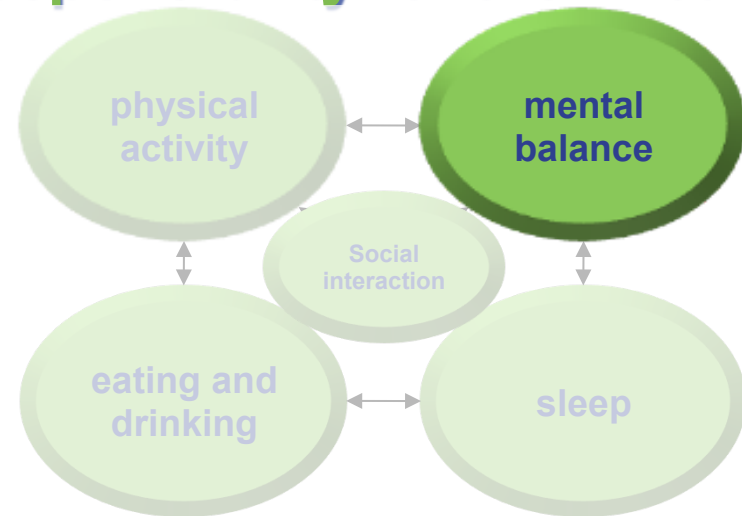
- the **direct costs** of stress are **4 billion EUR** per year.
- every year **150.000 - 300.000** employees become ill because of stress at work.
- **1** out of **7 disabled** gets his condition because of stress at work.

TAL HWB addresses primary prevention for Health and Wellbeing

The threats of today's demanding society



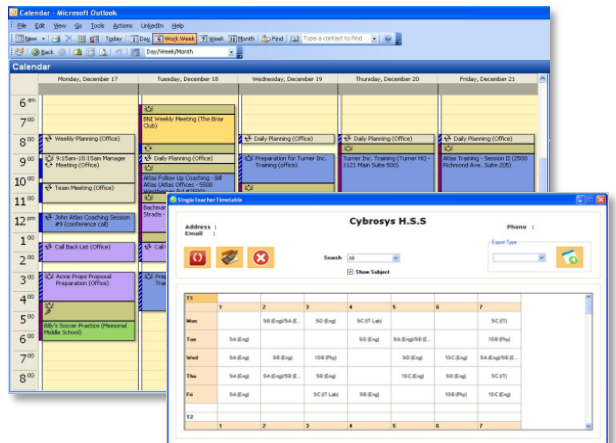
Empowering people to find balance and assume responsibility for their health



Stress@Work will support people in **balancing stress** and **relaxation** when dealing with challenges of everyday life

Stress@work analyses stress factors and recommends ways to avoid them

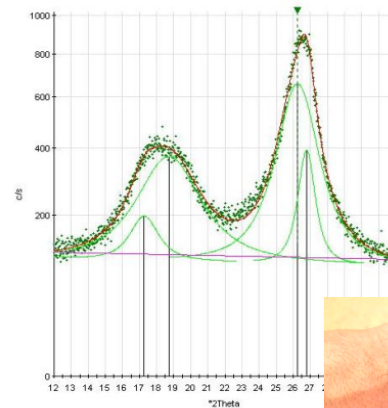
Outlook Agendas & Teaching Schedules



Testbed for Datamining



Stress measurement during the day



Validation

- Validate value of the information
- 3 user groups: secondary school teachers, home care providers and working parents

Results

- **Insights** on how to reduce stress levels
- **Recommendations / Coaching**
- **New products and product / service combinations**



Several EIT ICT Labs partners are involved in the activity Stress@Work

- **Philips Research**
- **Technical University of Eindhoven**
- Human Capital Care – an Occupational Health Service organization
- **CWI, TU Delft, Novay, Aalto, VTT** and **SICS** are involved in the complete activity.

PHILIPS

NIRICT



SICS



First results are expected during the last quarter of 2011



The TAL HWB approach ... (2012 plan) ...

The Thematic Action Line (TAL) Health and Well-being (HWB) will improve the quality of everyday life via the development of ICT enabled services supporting a cost effective sustainable healthy lifestyle, as well as ambient assisted living.

These services support and **Uncompromised, Active, Healthy, Pleasant & Affordable Life** and at the same time avoid **Social Exclusion**.

Develop a test bed that allows the validation of innovative solutions with launching customers for Physical activity, Stress & relaxation, Sleeping well, Healthy consumption and Social interaction and involve interested business partners.

Execute HWB specific horizontal support activities with respect to:

- HWB innovation radar
- HWB policy with respect to carrier projects
- HWB legal / ethical / privacy issues

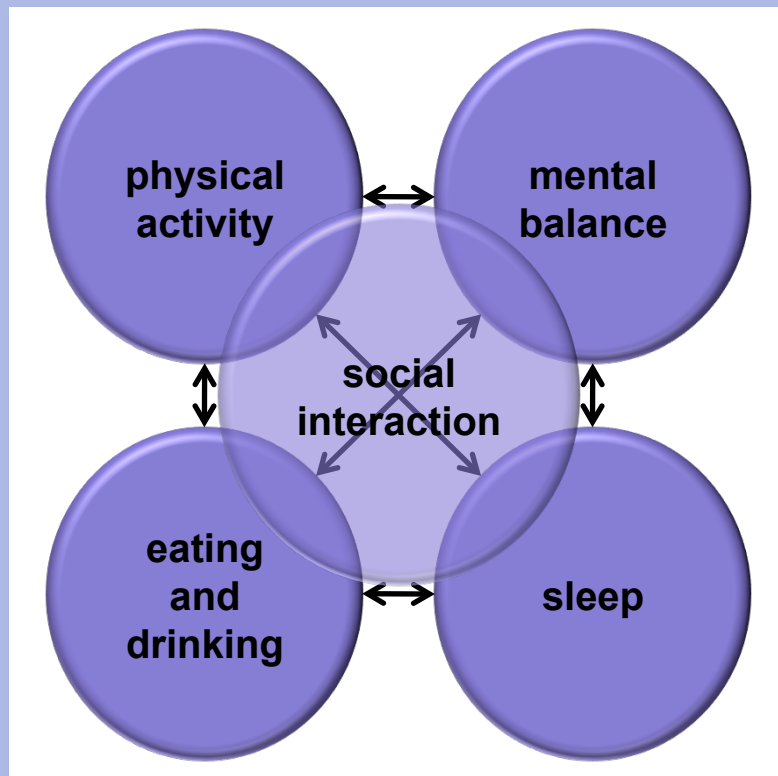
THWB Action Line

Activity	EIT	Co-Fund
THWB WeCare	275	1580
Stress@work	275	2129
Stressless community	100	1285
Indoor Physical Activity	250	2096
Physical Activity for rehabilitation and active life	100	350
Healthy Consumption	250	962
Sleeping Well	275	1656
Affective Computing	165	760
Interaction between care receivers & providers	150	1050
HWB Policy	100	400
THWB Innovation Radar	100	795
HWB Landscape	100	1161
International Business Modeling	150	730
EIT labelled PDEng HSD	50	385
Experience & Living Labs	200	850
	2540	16189

Spearhead Stress	650
Spearhead Activity	350
Spearhead Nutrition	250
Spearhead Sleep	275
Spearhead Social Interaction	315
Support TAL & Business Development	510
Education	50
Technical	200
Industry	856
Institutes	913
Academia	831

THWB Action Line

Key Objectives 2012



- 6 validated service or product ideas
- e-services for job stress mngt
 - affective health product
 - mobile personalized food adviser
 - robust activity monitoring system
 - sleep oriented evaluation test bed
 - emotion detection component

4 products or services introductions

2 ventures as result of TAL activities



Thank you for your attention!



Contact



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