

LENI



EUROPEAN LABORATORY OF IMMERSIVE NEUROTECHNOLOGIES

21-11-2017

LENI IN A NUTSHELL

¿WHO ARE WE?

MAIN ACTIVITIES

i3B is a Institute of Research and Innovation of the Polytechnic University of Valencia, with more than **25 years of experience**.

Scientific Goal: **Modelling** and **improving human activity**, using **new technologies** based on **neuroscientific models**

Technical Goal: Natural Interactive Technologies such as: Mixed Reality Interfaces (**MRI**), Natural User Interfaces (NUI) and ubiquitous and non-intrusive measurement of **human activity**.

Commercial Goal: **Comercial solutions** in emergent areas (neuromarketing, neuroleadership, neuroeducation, neurodesign...).



¿WHO ARE WE?

MAIN ACTIVITY

Founded in 1992

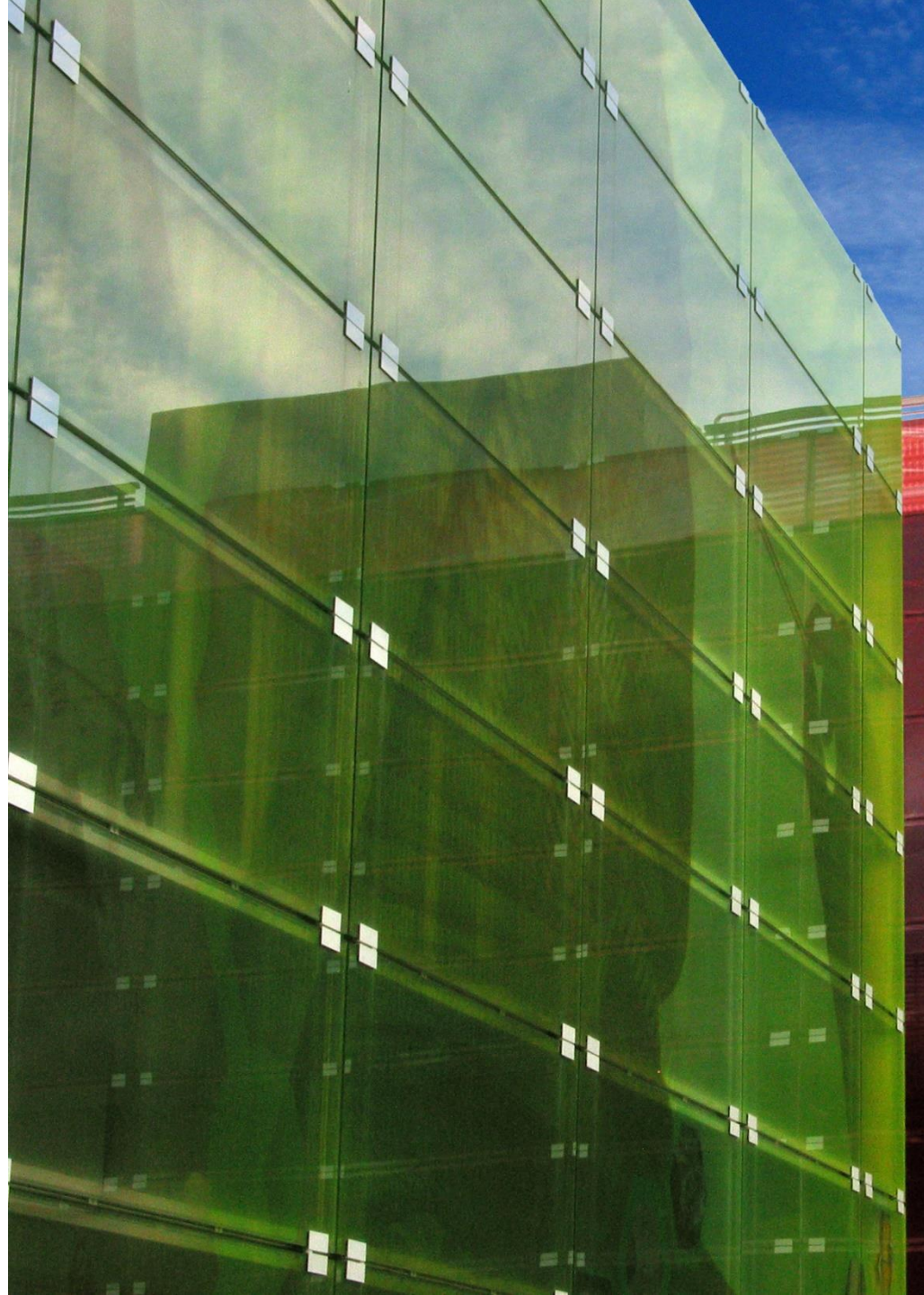
Origin: VR and psychology

Emotion analysis in human beings

First European Center in virtual therapy

73% incomes coming from companies

Active projects in 2017: 47



MAIN ACTIVITY

2017: 63 people

Grants = 3 // Foreign visitors = 3 // pHD

Students= 12 Engineers = 25 // PhD = 11

Multidisciplinary team:

Engineers (industrial, telecommunications, informatics), physicians, mathematicians, designers.

Professional Team

Directive Staff with previous experience in private companies



MAIN ACTIVITY

First Institute in volumen and efficiency in UPV

UPV Best Polytechnic University of Spain (Ranking Shanghai 2015)

Director:

- PhD in Industrial Engineering
- Full Professor in Graphic Engineeringf
- 23 years of experience in R&D
- ICT Manager in Ministry of Economics
- H2020 ICT Representative for Spain
- One of the 10th more internationally mentioned in the topic “Virtual Reality” (6th position in 2016)



MAIN ACTIVITY

- Quality Seal of AENOR in **ISO 9001;2015 since 2011**
- Unique R&D Institute in Spain with ISO Quality Seal
- ISO Methodology in Project development
- Documental system
- **Client Satisfaction (average 2016: 9,6)**

Company-oriented:

- 5 Chairs
- Unique worldwide Chair in Neuromarketing
- Great experience in spin-off companies, innovation



PAMESA
ceramica

**HEINEKEN**



comafe

MAIN ACTIVITY

- Quatechnion is a technological company focused on developing final solutions from the results of the research and innovation generated in I3B/LENI
- Offices in Madrid and Valencia
- More than 10 years of experience



- Projects with clients
- Multiple sectors



MAIN ACTIVITY

5 years ago we created one of the most important laboratories in Europe for human behaviour analysis....

Immersive Neurotechnologies Laboratory

- Biggest CAVE in Europe
- On-the-edge technologies in neurobehaviour measurement
- Sensorial Immersive Cube
- Trending hardware in VR, AR and natural interfaces



QUIENES SOMOS



Laboratorio Europeo
de NeuroTecnologías
Inmersivas

LABORATORIO LENI

Aplicamos y desarrollamos tecnología de vanguardia en cuanto a la estimulación y la medida del comportamiento humano.

Disponemos de un equipo multidisciplinar único en el mercado.

Pertenece al mundo de la ciencia y por tanto todas nuestras metodologías están basadas en evidencias científicas.

Aportamos al cliente un tipo de información que hasta ahora no tenía con el objetivo de mejorar la efectividad de sus acciones.



SMK Spaces

El objetivo de este área es mejorar la efectividad del espacio de venta. Para ello desarrollamos metodologías que permitan validar el impacto del espacio de venta en el comprador para proponer cambios y mejoras oportunas.



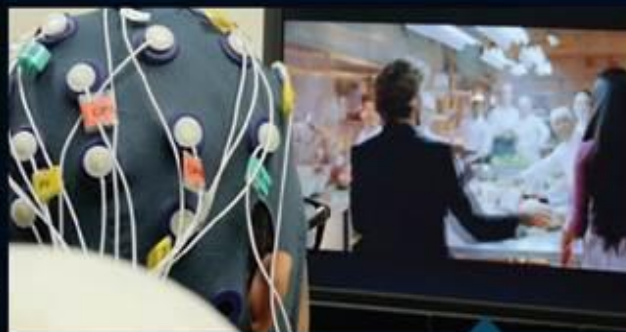
NeuroManagement

Investigamos el uso y aplicación de las más innovadoras herramientas y tecnologías en materia de realidad virtual, para la evaluación y entrenamiento de las competencias personales y grupales de los individuos en un entorno laboral.



NeuroArquitectura

Desarrolla nuevas metodologías para la evaluación y el diseño de espacios arquitectónicos teniendo en cuenta el impacto en el perfil de persona que lo va a habitar tratando de conseguir el efecto esperado.



SMK Audiovisual

Analiza el impacto en el espectador de anuncios, TV, cine, videojuegos, para conseguir que la inversión en medios sea efectiva y rentable a través de la determinación de los mensajes que movilizan más al espectador.



SMK Product

El objetivo de este área es la de generar metodologías para la evaluación y diseño de productos haciendo uso de nuestra experiencia en campos como la Ingeniería Emocional, la Medición fisiológica y el uso de la Realidad Virtual.

EL LENI EN CIFRAS



2.500m²

Espacio reservado en la CPI de la Universidad Politécnica de Valencia para nuestras instalaciones.

16 Salas

Totalmente equipadas con las últimas tecnologías.

6m VideoWall

Pantalla de 6 metros retroproyectada.

4 sided CAVE

CAVE de 9m² con retroproyección en 3 paredes y proyección en el suelo.



LENI

Connecting with customers' minds

leni.labhuman.com

Instalación HW flagship I3B

Campus excelencia



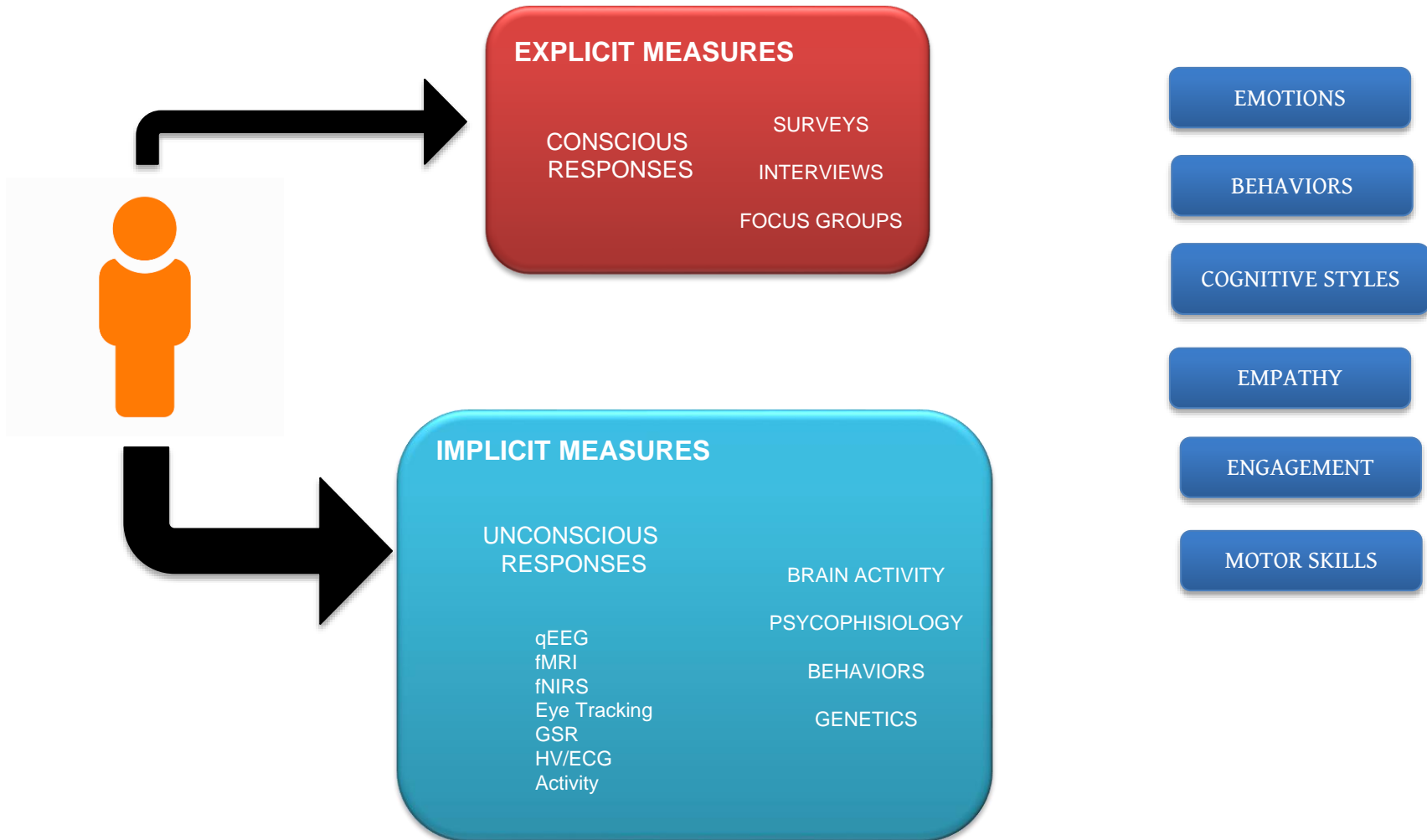
El estudio del comportamiento humano y el uso de tecnologías, abre un abanico de servicios y soluciones comerciales en **NEUROMANAGEMENT** y **SMARKETING**.

LENI KEY ACTIVITY

PERSON

METHODS

DATA



WHY USING IMPLICIT MEASURES?

SCIENTIFIC GROUNDS

The **conscious** information processing capability of the brain is more than 100 thousand times **less** than total information bandwidth coming into the brain
(Zimmerman, 1989)

Information processed outside of consciousness nonetheless influences how we
feel, think, and behave
(e.g. Fazio & Olson, 2003)

Two brain modes of information processing

System 1 (more automatic, intuitional, and emotional)

System 2 (more controlled, analytical, and rational)

(e.g., Hodgkinson, Langan-Fox, & Sadler-Smith, 2008)



Therefore, the current tacit model of the human mind on which research relies is **incomplete** and in some cases incorrect

SOCIETY GROUNDS

The need for new assesment methods

"It is better to evaluate the candidates according to their objective behavior when answering certain questions"

"The only issues that really can make us see the potential that a candidate can have are those related to their behavior"

"Assessing leadership skills is much more difficult, and it is something that is almost impossible to find out in an interview"

Laszlo Bock, vicepresident Human Resources Google- New York Times interview - 2016

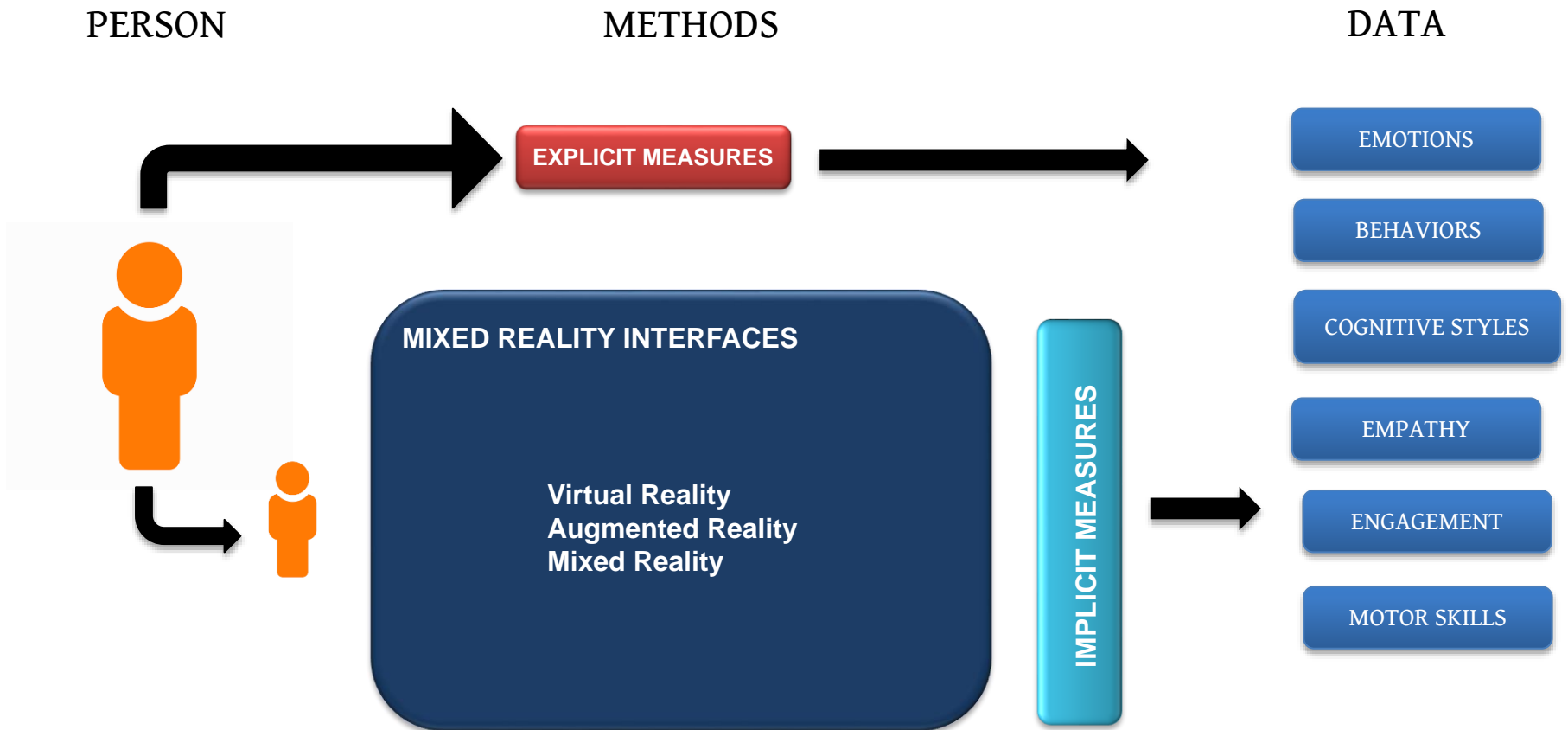
Why training fails

*"American companies spend enormous amounts of money on employee training - \$160 billion in the United States and close to \$356 billion globally in 2015 alone—but they are not getting a good return on their investment. For the most part, the **learning doesn't lead to better organizational performance, because people soon revert to their old ways of doing things.**"*

(Beer et al., 2016, p. 50) - October 2016 edition of the Harvard Business Review

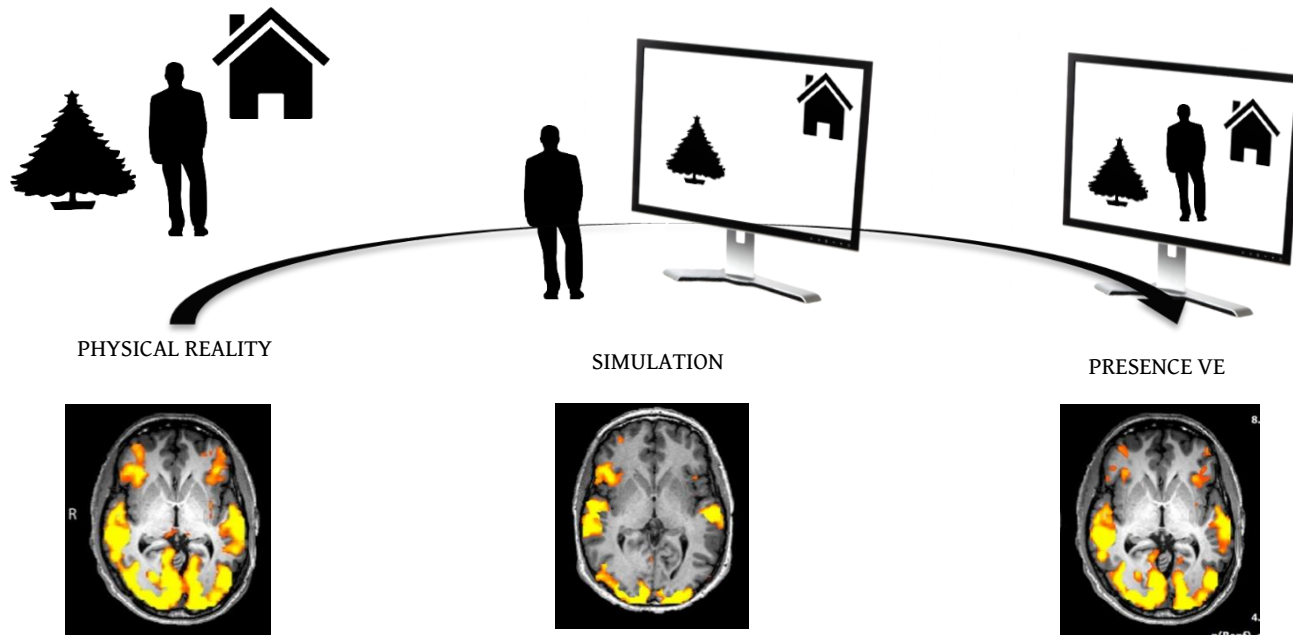
LENI KEY ACTIVITY

Context has a strong influence in how people process information
(e.g. Epitropaki & Martin, 2004)



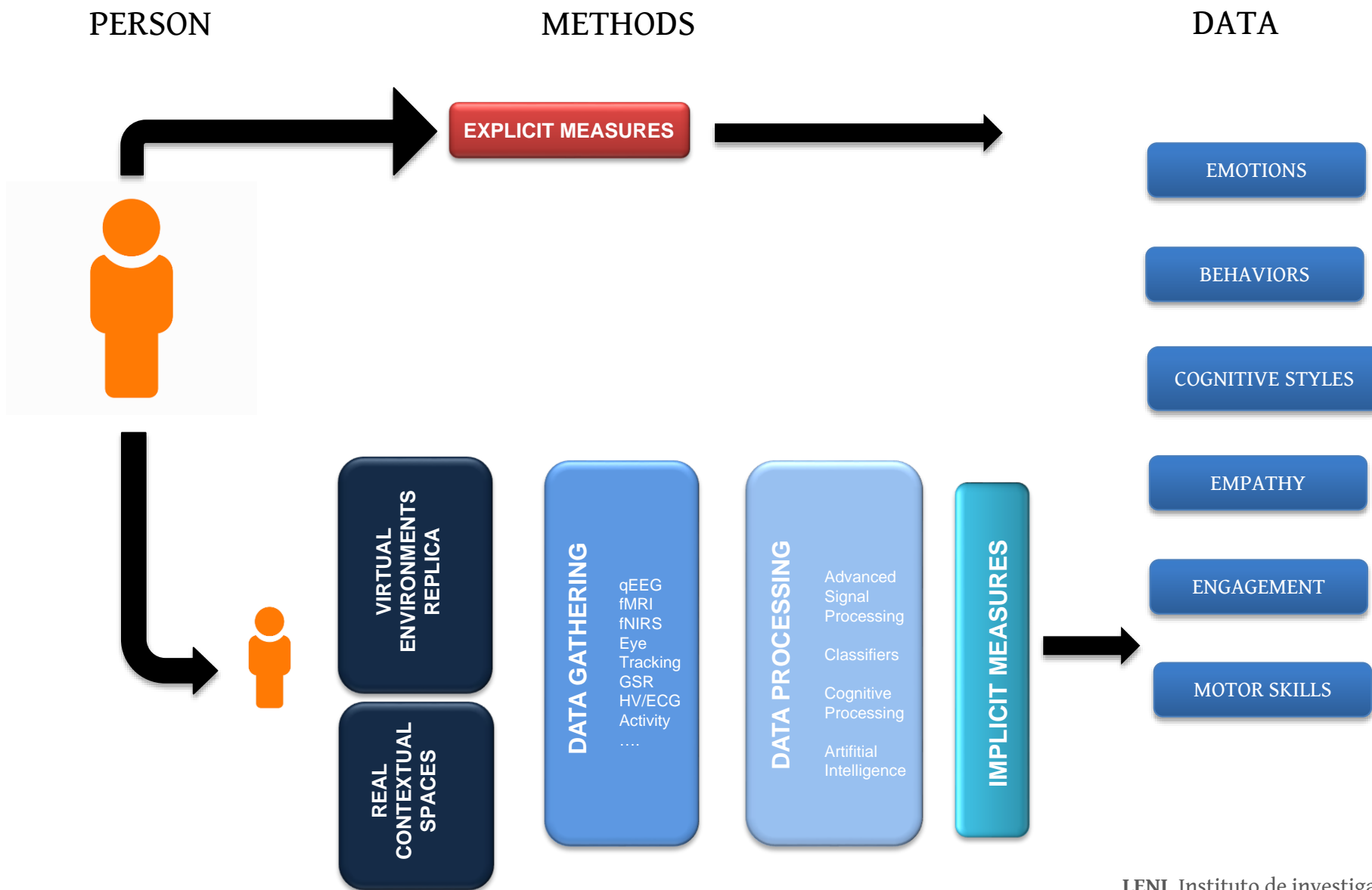
Is VR realible?

NEURAL MODEL FOR PRESENCE
(ALCAÑIZ, 2009)



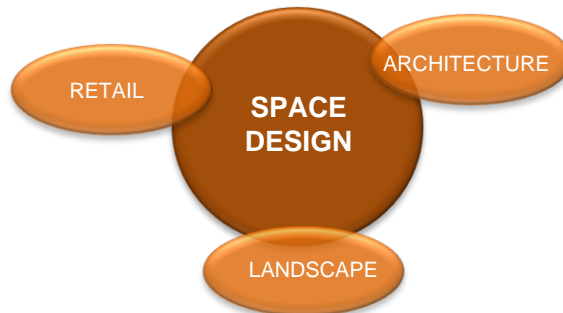
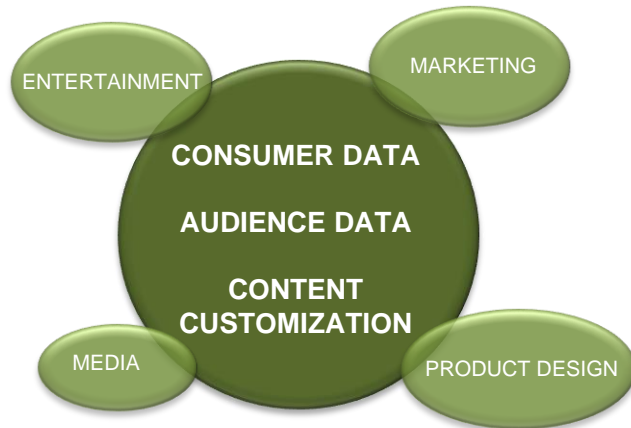
Alcañiz, M., Rey, B., Tembl, J., & Parkhutik, V. (2009). A neuroscience approach to virtual reality experience using transcranial Doppler monitoring. *Presence*, 18, 97-111.

LENI KEY ACTIVITY



LENI KEY RESEARCH ACTIVITIES

Research activities





THANK YOU

www.i3b.upv.es

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