

# Welcome - CERN Ideasquare as an Innovation Experiment



# IDEASQUARE INITIATIVE IN BRIEF

“Ideasquare@CERN is a pilot project that combines detector R&D with society-driven student challenges. It brings together physicists, engineers, industrial partners, PhD students and cross-disciplinary MSc-students to interact with each other. The purpose is to co-develop new technologies for research purposes, and at the same time, create a fruitful environment for socially and globally relevant new product ideas and innovation.”



**EDUSAFE**

## **EXAMPLE: EU-FUNDED DETECTOR UPGRADE R&D PROJECT**

- EDUSAFE is a 4-year Marie Curie ITN project (Ending 2016)
- Training for 10 Early Stage and 2 Experienced Researchers
- Focuses on research into the use of Virtual Reality (VR) and Augmented Reality (AR) during planned and emergency maintenance in extreme environments
- The result will be an integrated wearable VR/AR system (+control system) which can be implemented and tested as a prototype, using LHC at CERN as a test and demonstration platform



## EXAMPLE: EU-FUNDED DETECTOR UPGRADE R&D PROJECT

- TALENT is a 4-year Marie Curie ITN (Ending 2015)
- Provides training for 14 Early Stage and 1 Experienced Researcher
- Focuses on piloting new state-of-the-art technologies on the new precision pixel detector: ATLAS Insertable B-Layer (IBL) and for future high precision tracking detectors
- The outcome will be to create the means to produce affordable high performance detector modules in European industry and thus answer to the forthcoming needs of research infrastructures and industry application demand



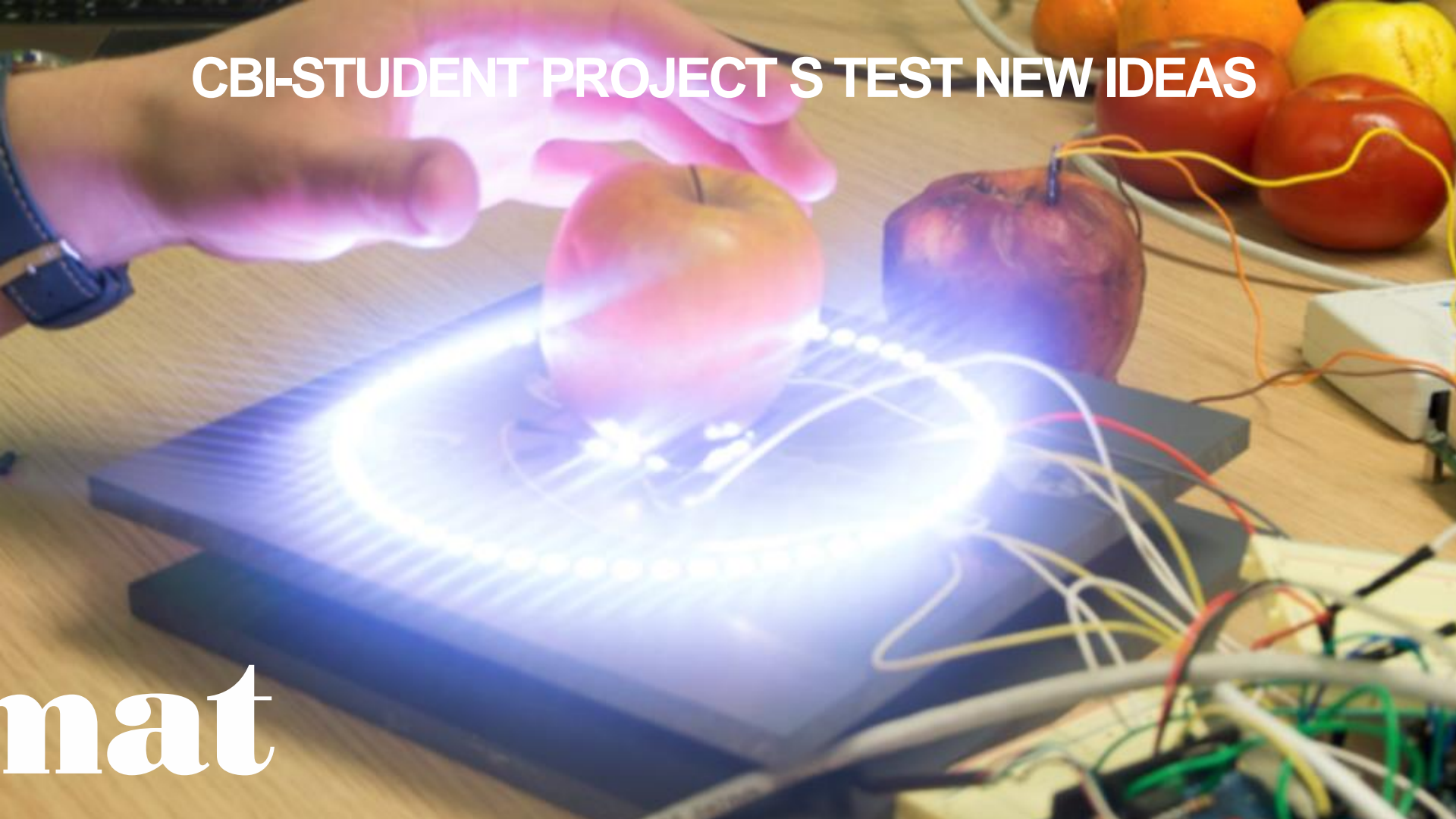
Challenge  
Based  
Innovation

## EXAMPLE: MASTER-LEVEL STUDENT COURSE

- Challenge Based Innovation (CBI) is up to 6 month MSc-level specialization course for product and service development, run by participating universities from (currently) 8 countries around the world
- Two pilot runs completed so far, 8 final proof-of-concept prototypes produced – today the 3<sup>rd</sup> round of CBI completes
- In the course, multidisciplinary student teams learn how to apply Design Thinking – process for new product/service development; CERN researchers act as technological coaches in the process
- “Work very hard, learn and have fun!”
- “Fail fast and often to succeed sooner”

# CBI-STUDENT PROJECT S TEST NEW IDEAS

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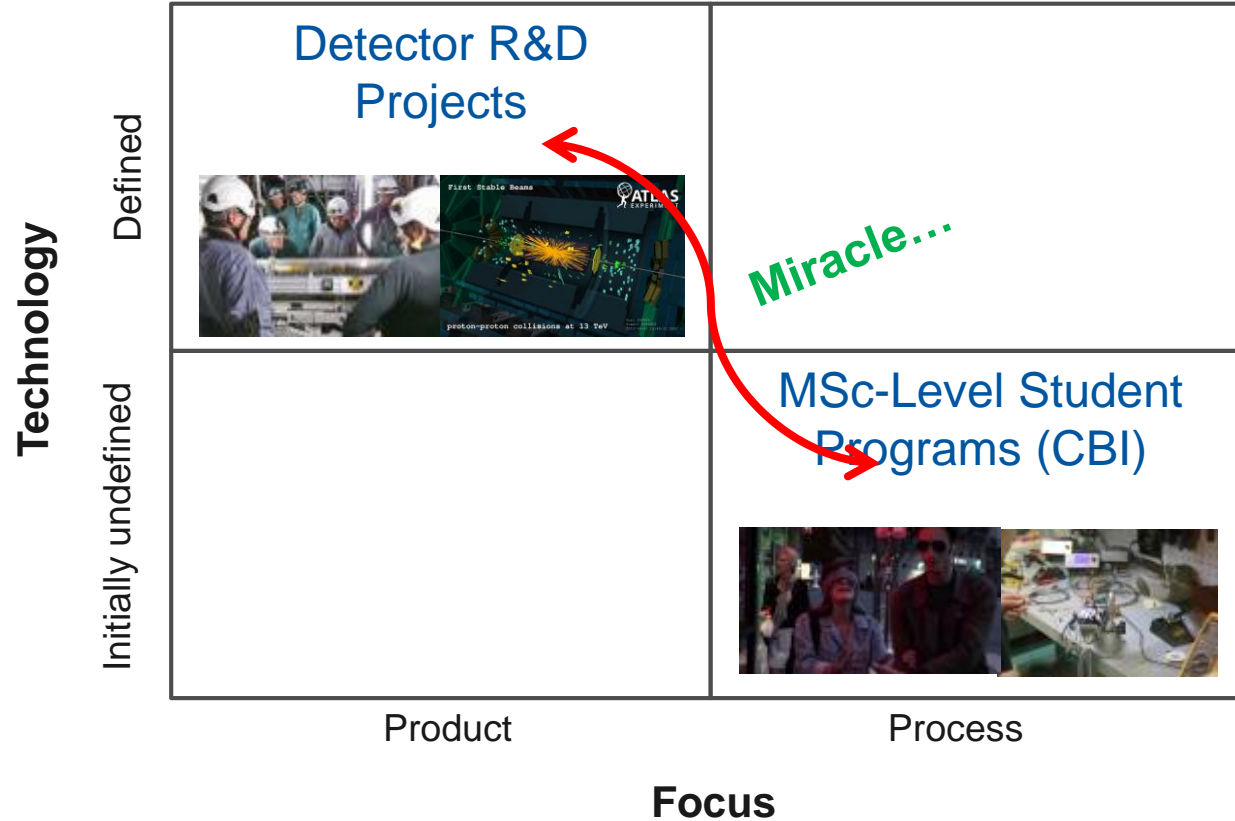
# END-USER, DESIGN THINKING DRIVEN APPROACH



<http://2014.cbi-course.com/>



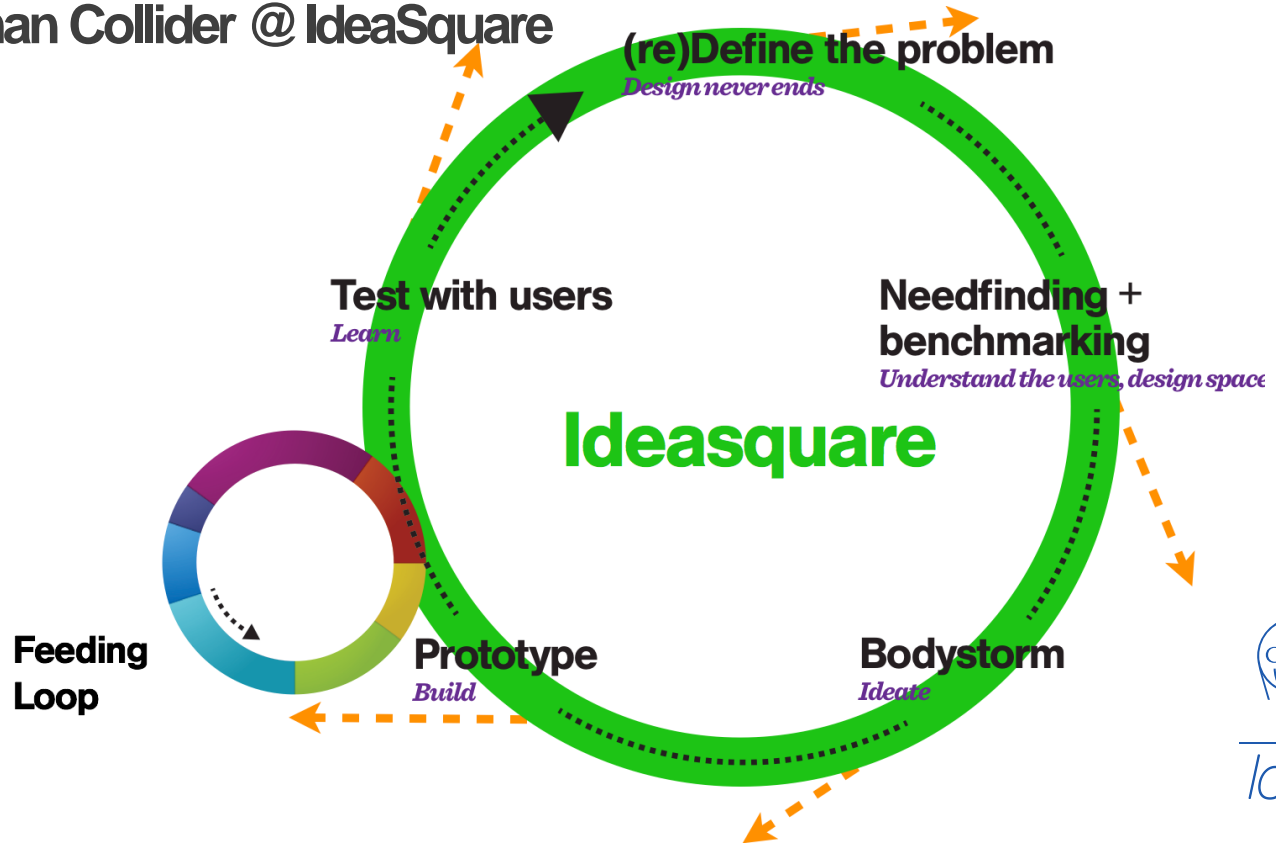
# WHAT IS THE LINK TO INNOVATION?



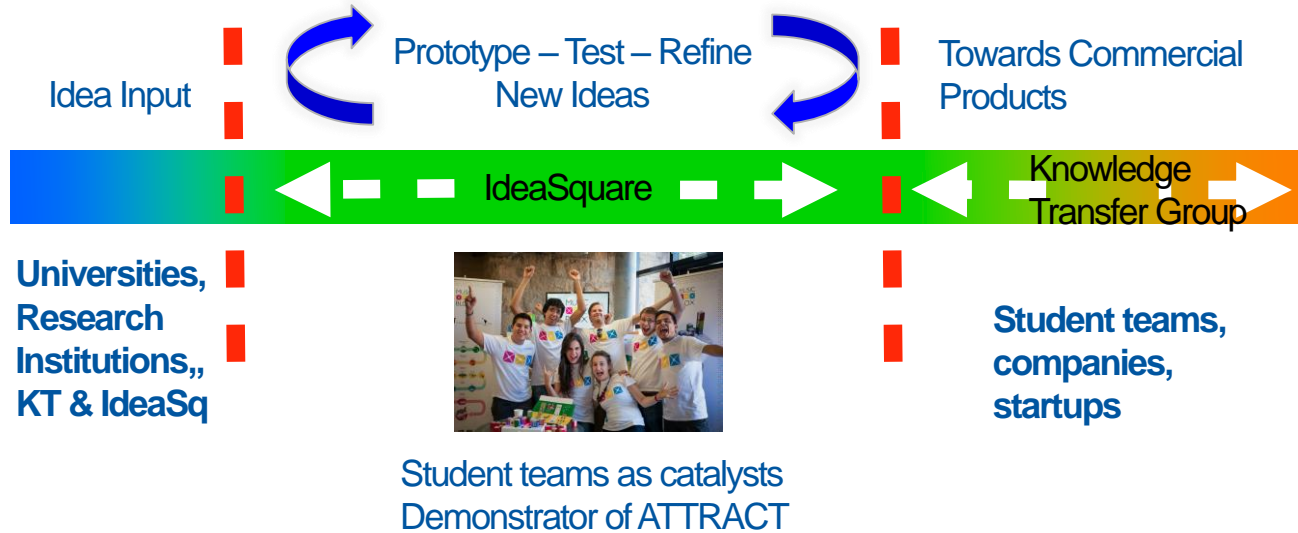


# HOW ARE NEW IDEAS GENERATED?

The Lovely Human Collider @ IdeaSquare



# CERN's Innovation Value Chain



# HOW THEN TO MEASURE SOCIETAL IMPACT?

- Number of start-ups, turnover?
- Number of ideas, projects, products, partners or students?
- Number of patents?
- Probability of success (or risk of failure)?
- Resources obtained?
- Amount of coffee drunk?
- What is it that we are **not** seeing but perhaps should? Magic...

# SOME STATS

<b>Coffee machine usage totals</b>	<b>10/2014-05/2015</b>	<b>05/2015-11/2015</b>	<b>Total 2014-2015</b>
Water usage (in liters)	1503	1730	3233
Total cups distributed	12542	14414	26956
Coffee	5992	5867	11859
Coffee&Milk	2420	2311	4731
Milk	2197	4066	6263
Hot Water	1933	2170	4103

<b>How many new people did you meet today?</b>	197				
Number of new people met	0	1-3	4-8	9-15	16+
Answers	56	46	30	17	41
<b>Proportion of responses</b>	29%	24%	16%	9%	22%

# CONCLUSIONS

- IdeaSquare hosts detector R&D projects and facilitates in parallel MSc-level student projects such as CBI
- IdeaSquare is a place to experiment innovation; how to connect science (products) with society (processes)
- We are currently experimenting and collecting data – all sorts of data for innovation research purposes

*All you need is*

~~..Love~~ PHYSICS

*..Design*

*..Business*

*..and Engineering.*

Questions? Comments?

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Let's meet for coffee and make it happen!



Idea<sup>s</sup>