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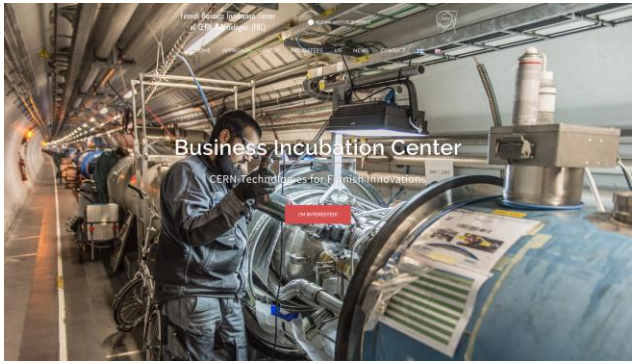

25.1.2019

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BIC project @ Technology Programme of HIP

Business Finland supported R&D&I collaborations' preparation & info exchange

Saku Mäkinen, Pietari Kauttu, Harri Toivonen

25.1.2019

BIC project aims at

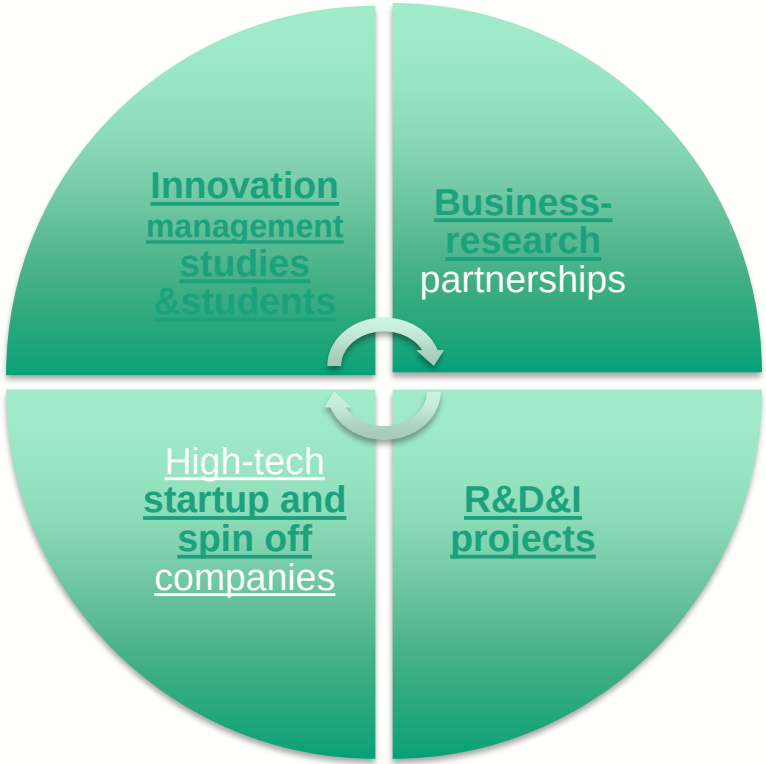
- Developing new Research, Development & Innovation (R&D&I) cases by
  - Taking part, hands-on, into R&D&I cases' and FBC incubatees ramp up and development activities with extensive global expert network of serial entrepreneurs, business accelerators' managers, VCs, attorneys and innovation mgmt scholars
  - Providing support in finding funding partners (public R&D&I funding agencies, such as Business Finland & the European Commission and private equity with an emphasis on VCs/Business Angels/Family Offices supporting very early stage high-tech cases).

- Taking part into European R&D&I policy by
  - Continuing, and extending our involvement in innovation management Expert roles for a) Public R&D&I funding agencies, such as Business Finland & the European Commission and b) research institutions like CERN & ESA research communities

- Contributing into academic discussions of innovation management field
  - Strategic technology and innovation management
  - Societal impact of scientific research infrastructures
  - Technology foresight and forecasting

- Supporting young talent in their innovation management study and career paths (main focus areas: academic & high-tech startup careers)

Focus Areas of the BIC Project



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Topical Areas withing HIP Research Having Potential for Industrial R&D Collaboration Initiatives (non-exhaustive, in random order)

- Radiation hard semi-conductor components
- Detector Mechanics
- High gradient accelerators and manufacturing technologies
- Augmented man/Robotics/AI/radiation hard equipment/smart machines/environment monitoring
- Magnets/superconductivity/quench protection
- Signal processing
- Data center technologies
- CLOUD
- Instrumentation for Nuclear Safety, Security and Safeguards
- Quantum programming, RAMS software etc.

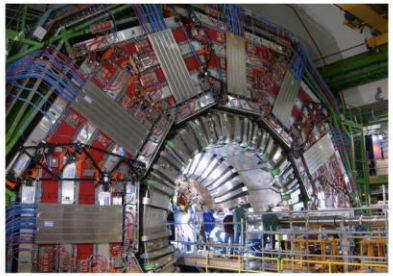
Today’s Meeting Agenda

- Co-Innovation as a funding instrument, tricks of the trade
- Synergies between projects
  - Important to communicate towards CERN in a coherent manner
  - Collaboration in some work packages?
  - Ramp up of larger combined (e.g. EU projects)?
  - Common outreach & industry activation efforts?

Today’s Goals

- Get all PIs on same page about ongoing ramp up efforts & co-innovation as a funding instrument
- Define synergies: projects, outreach, contacts etc.
- Agree about next steps

Examples of Past Industry Activation Events & Outreach



CERN tulee Aaltoon

Aalto Design Factoryssa järjestetään 6.4.2017 tapahtuma, jossa CERNin delegaatio esittelee yrityksille yhteistyömahdollisuuksia.

– Asiasta kiinnostuneiden yritysten kannattaa ehdottomasti osallistua tapahtumaan. Siellä pääsee keskustelemaan suoraan CERNin henkilöstön kanssa esimerkiksi tutkimuskeskuksen ostomahdollisuuksista, tutkimusyhteistyöstä, startup-tuesta sekä teknologian lisensointimahdollisuuksista, Pietari Kauttu kertoo.

Tapahtumasta tiedotetaan Fysiikan tutkimuslaitoksen sivuilla: www.hip.fi

Hiukkasen kiihdyttäviä tarjouskilpailuja

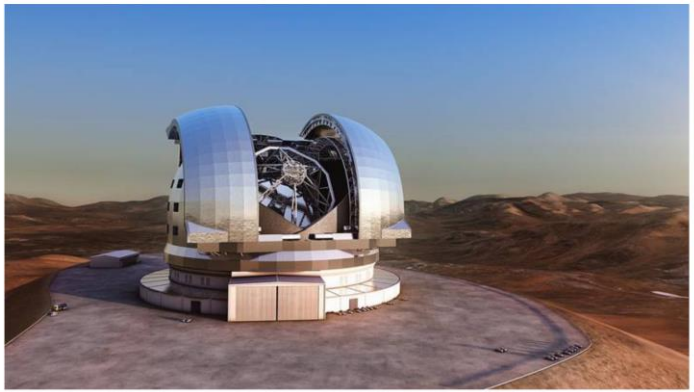
CERN tekee laitehankintoja joka vuosi 500 miljoonalla eurolla. Suomalaisilla yrityksillä on mahdollisuus ottaa potista oma osansa.

8/12

TIEDE | Kari Kortelainen | 14.11.2012 klo 20:19

Suomalaisyrityksille aukesi polku eurooppalaisen suurteleskoopin rakentamiseen

JAA ARTIKKELI



European Southern Observatory

ESO Industry Event: Dome & Main Structure

Presseclub at the Allianz Arena: 16-17 October 2012

Astrium EADS
E-ELT Dome & Structure
Subcontracting Match Making Event

Mr. Hannu Juuso & Mr. Pietari Kauttu
ESO Big Science Industry Activation, Finland
Tekes, October 24th, 2013

BIG SCIENCE
Tieteen suurhankkeet
Big Science Projects

Tekes

CERN Roadshow in Finland

- 144 persons attended
  - (150 limit at venue due to safety rules)
  - 176 registered
  - 44 preregistered B2Bs took place
- 51 business executives
- 42 companies
- 23 different institutions
- 8 identified interests for follow ups with companies 8 identified companies worth of further DD
  - (about 40 % rate for company follow ups in some form, and procurement's data still n/a!)
- 6 identified leads with institutions
- Some students still in contact with HR
- 50 networking session participants from DFGN

Finland at CERN – What can Finland do for science?

Finland arrives at CERN!

Taking place in November, Finland at CERN will introduce Finland and showcase its inventive expertise through a dynamic programme consisting of inspirational speakers, workshops, exhibitions, and other

Event Days

Day 1 | 1 Nov 2017	**Day 2** | 2 Nov 2017	**Day 3** | 3 Nov 2017
Venue | IdeaSquare, CERN	Venue | Globe, CERN	Venue | IdeaSquare, CERN
Collaboration and the key elements to success	Working for the next 100 years of solutions	Creativity and innovations in creating solutions

Why would companies be interested?

References

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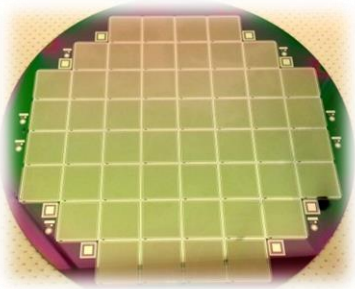
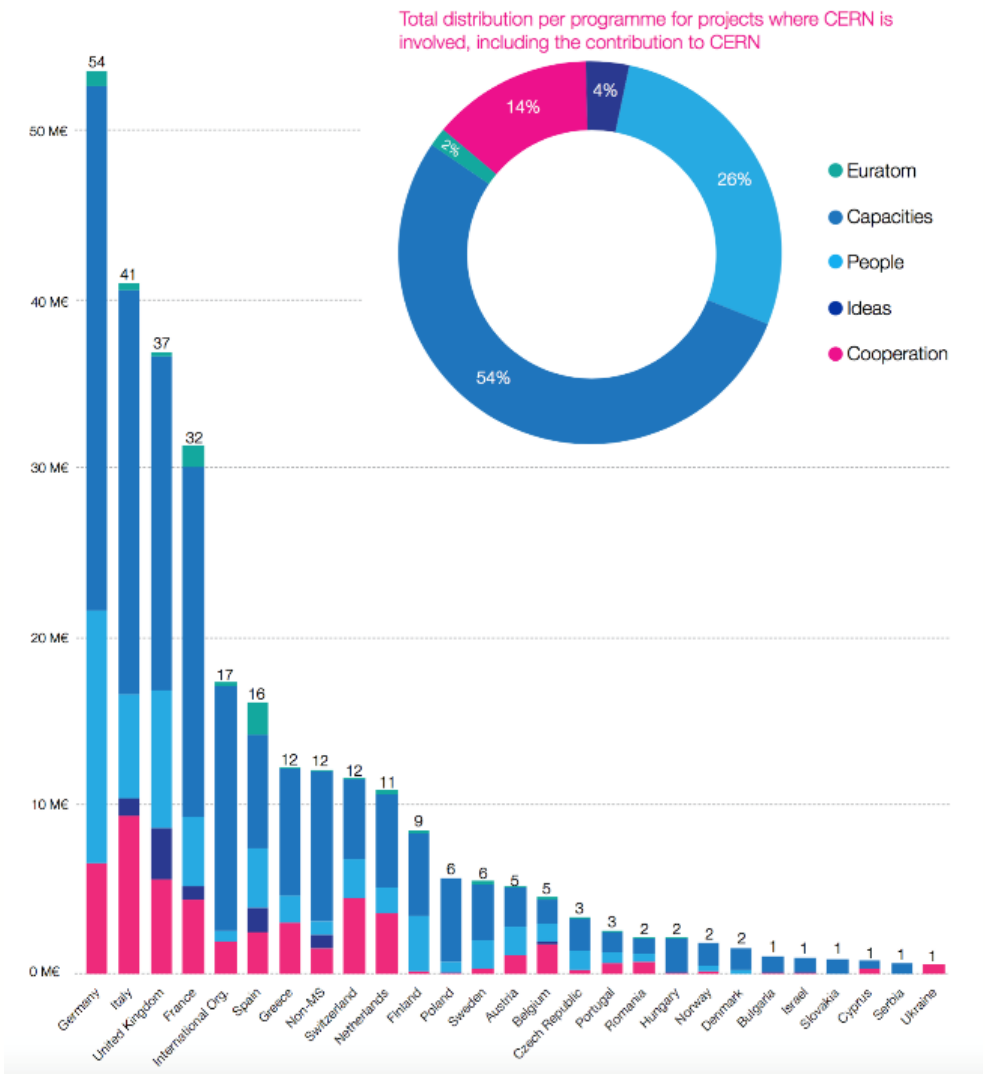


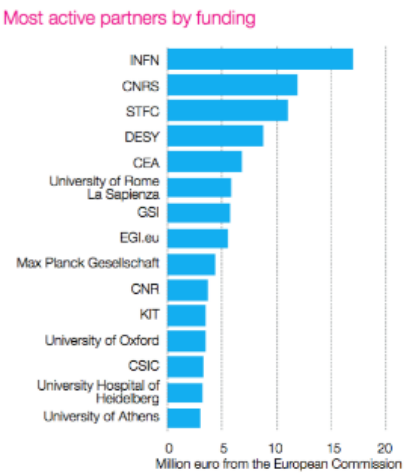
© Advacam

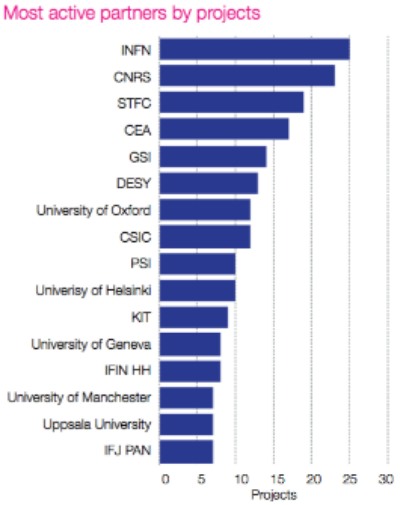
© VTT

ADVACAM receives LHCb industrial award for the VELO upgrade

EU Funding opportunities







Overview of the participation of CERN in H2020 (2014-2017)

Pillar	H2020 programme	Number of submitted proposals*	Number of funded projects*	EC funding for CERN
Excellent Science	European Research Council	29 (26)	8 (8)	~ 8.9 M€
	Research infrastructures	23 (5)	14 (5)	~ 12 M€
	E-Infrastructures	22 (1)	12 (0)	~ 5 M€
	Future and Emerging Technologies	22 (9)	2 (0)	~ 0.4 M€
	Marie Skłodowska-Curie actions	47 (26)	16 (8)**	~ 11.8 M€***
Industrial Leadership	Information & Communication Technologies	12 (2)	3 (2)	~ 2.6 M€
	Other	5 (0)	0 (0)	0 M€
Other	Health	3 (0)	0 (0)	0 M€
	Science in Society	6 (0)	1 (0)	~ 0.2 M€
	Spreading excellence and widening participation	5 (0)	1 (0)	~ 0.1 M€
	EURATOM	1 (0)	1 (0)	~ 0.1 M€
	COST	8 (3)	4 (1)	~ 0.1 M€
	Other programmes (EURAMET, Eurostars, ERA-NET)	3 (0)	2 (0)	~ 0.1 M€
	TOTAL	**186 (72)**	**64 (24)**	**~ 41.3 M€**

H2020 success rate for CERN: 34%

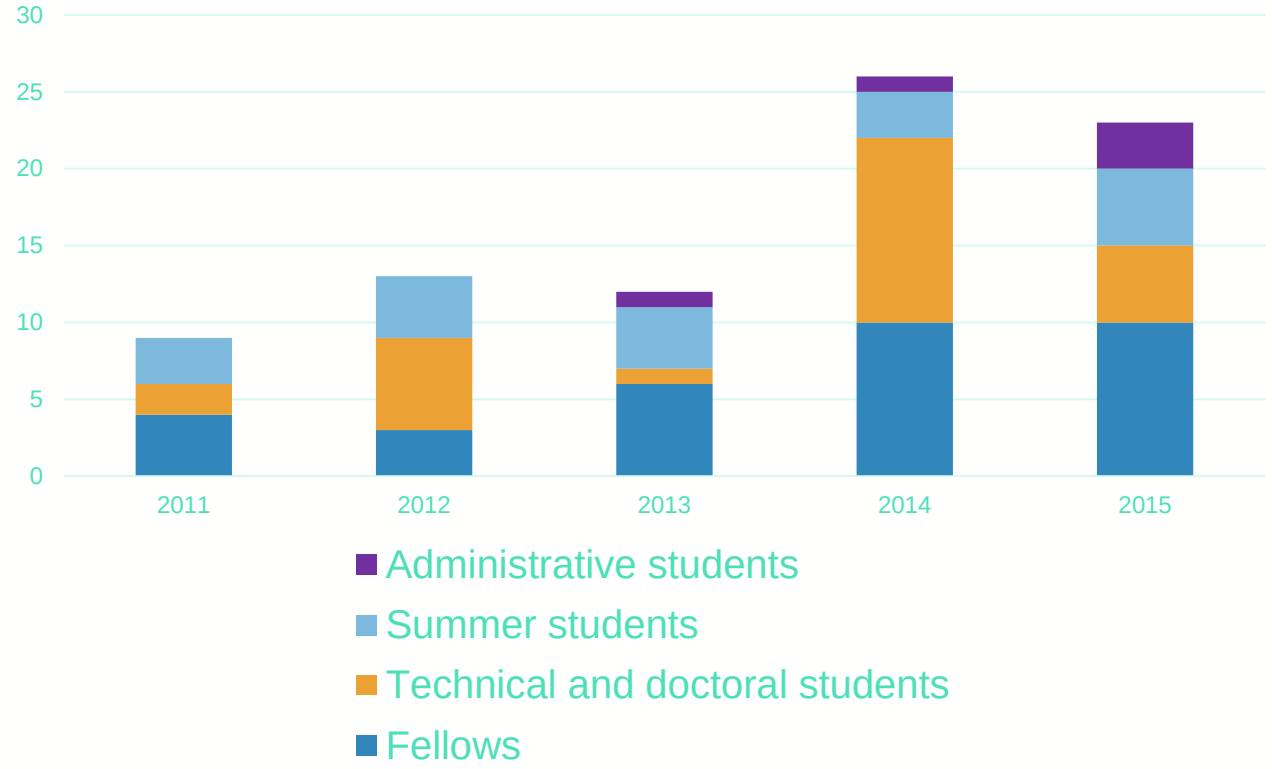
Average success rate in H2020 for all participants and programmes is ~12%

* the numbers in brackets indicate the projects coordinated by CERN

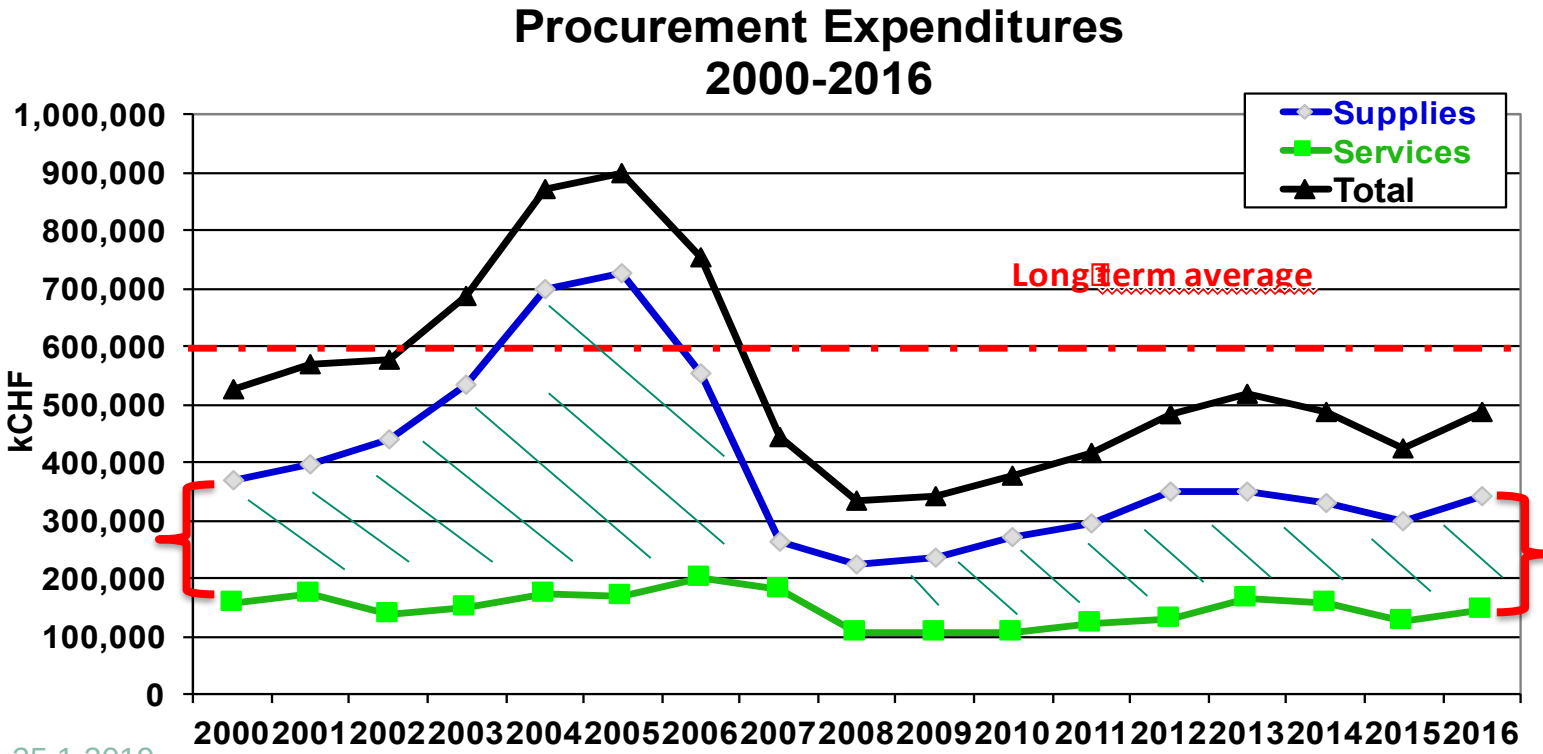
** In addition, CERN hosts 9 Marie-Curie Individual Fellowships

*** In addition, CERN receives 1.6 M€ for the 9 Marie-Curie Individual Fellowships

Students and fellows - Finland



CERN long term expenditure

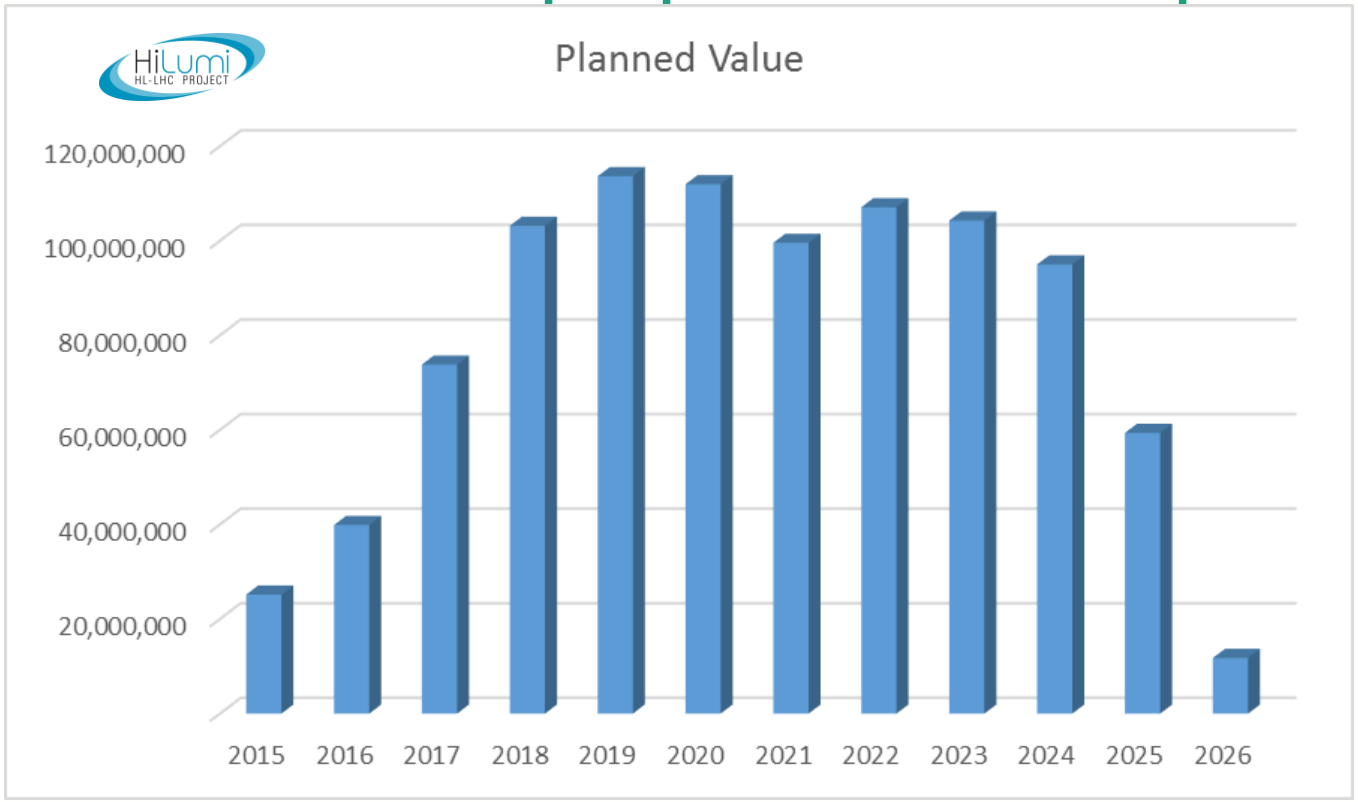


HL-LHC, supply purchasing volumes rising over next years

Supply expenditure, most relevant for FI companies

Courtesy of A. Unnervik, CERN

HILumi Ramp up foreseen expenditure



Courtesy of I. Bejar Alonso, CERN

HL-LHC DOMAINS OF ACTIVITY	
Cryogenics systems for HL-LHC	
Magnets components and assemblies	
Electrical equipment, electronics and instrumentation for accelerators	
Ultra high vacuum components and systems	
Collimators and new material resistant to high temperatures	
Cryostats and subcomponents for cryogenic equipment	
High precision Assembling and manufacturing technologies	
Others	
Raw Materials	
Civil Engineering and Technical Infrastructures	

How Can BIC Team Help?

- High tech dating service
  - CERN end
  - Companies
- Workshop facilitations in order to
    - Refine & document the scope of projects
    - Define roles & IP strategy
    - Advance projects through hackathon style sprints
- Event organization & outreach efforts
  - Seminars, media etc.


Thank you