

What are we doing here?

CERN as an engine of scientific collaboration; IdeaSquare as the innovation space at CERN.

October 31st 2022 Catarina Batista



Ideas



Lila Mabiala Communications



Laura Wirtavuori Edu programmes



Ole Werner Edu programmes



Dina Zimmerman Prototyping





Pablo Garcia Tello Designated in-house Physicist



Laëtitia Pedroso Events



Catarina Batista Edu programmes



Claudia Marcelloni Communications



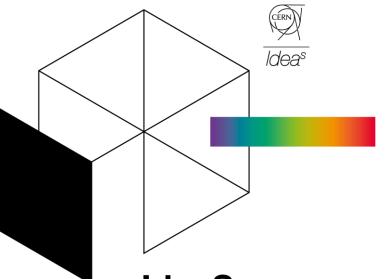
Tuuli Utriainen Cosmic collaborator

Who am I to talk to you

Catarina Batista

- Mindset Accelerator at CERN IdeaSquare
- BA Organisational Communication, Postgrad Product and Service Innovation, MSc Psychology (getting there).
- Passionate about education.
- European nomad, generalist and animal lover.





General building safety rules

IdeaSquare The innovation space at CERN

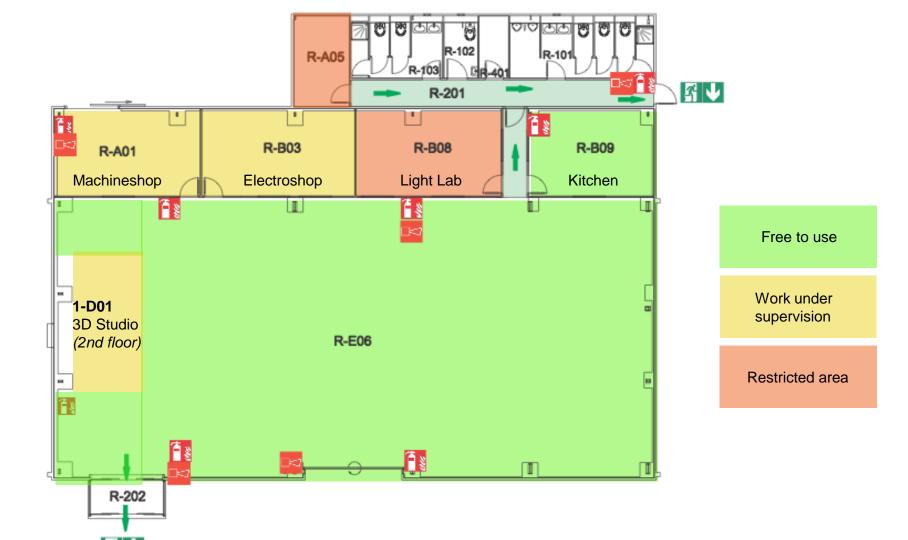
Safety is first priority.

BUILDING SAFETY B3179





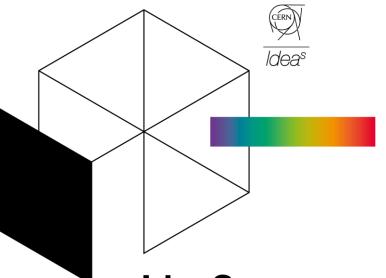
- In all inside areas of Building 3179
 smoking & alcoholic beverages is strictly forbidden.
- Working is possible 24/7 with CERN access card, sleeping is prohibited in all CERN buildings.
- Eating, drinking, coffee breaks are encouraged in the kitchen (and open) area. But not in the Red Bus, please!
- Cameras, **photos**, posting in social media **are highly encouraged :)**





Keep in mind that you are on CERN site

- CERN is a working place. Respect the work of others.
- Do not go to unauthorized areas. You should always be accompanied by an authorized person (with CERN access card).
- No loud music please and keep your workplace tidy. Any help in tiding up is very appreciated (like the Ideasquare kitchen)!
- For CERN ways of working, see <u>CERN Code of Conduct</u>.



Workshops and laboratories safety

IdeaSquare The innovation space at CERN

WORKING AREA POLICY B3179



In laboratory areas:

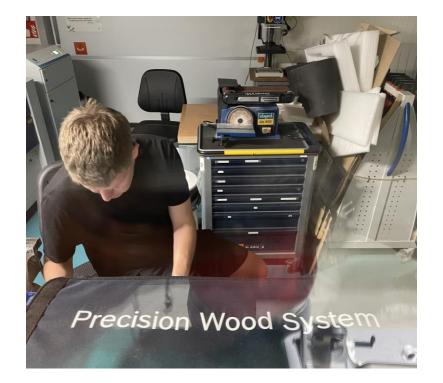
- Machineshop 3179-R-A01
- Electroshop 3179-R-B03 and
- 3D Studio 3179-1-D01

Eating and drinking are strictly forbidden.

For grey room (Light Lab 3179-R-B08) and dark room (3179-R-A06) areas access is restricted to authorised personnel only.

WORKSHOP SAFETY B3179

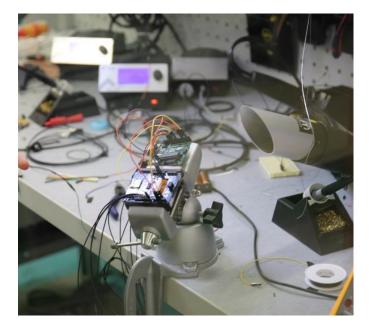




Safety is first priority! In:

- Machineshop 3179-R-A01,
- Electroshop 3179-R-B03,
- 3D Studio 3179-1-D01 working is conducted "under supervision".
- i.e. When you want to use the workshops:
- Come talk to us (Dina/Markus/Johann) what would you like to do and we'll figure it out together what is the easiest and fastest way to do it safely.

Workshop Safety

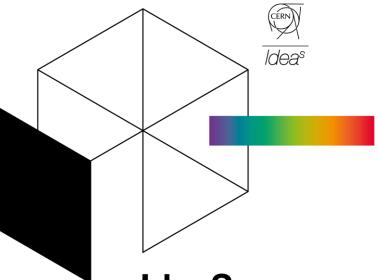


You are allowed to modify things, you are not allowed to modify yourself. - Jami Sarnikorpi

- Handheld tools? OK
- Electrically powered tools? Check with **Dina**
- Do not work alone

Don't know how something works? Ask!

Make sure to unplug electrical equipment when you are not using it. This is especially important for the glue guns.



Emergency evacuation procedure

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In case of an emergency

While evacuating, always go away from the danger!



Do NOT return to collect your belongings





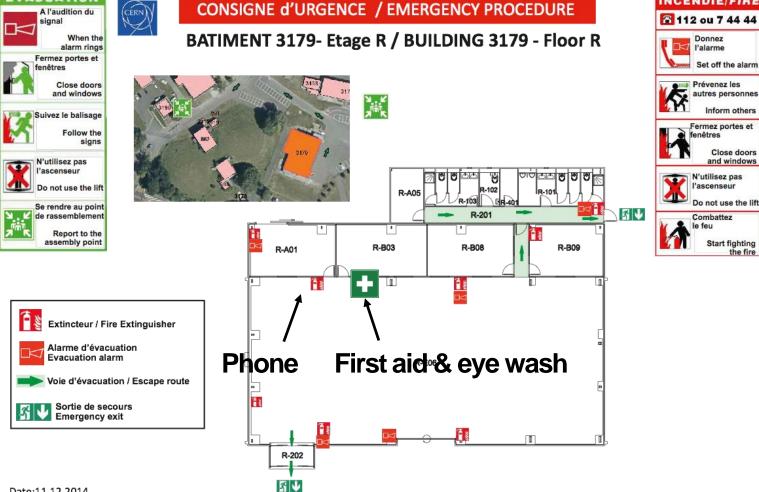
Walk quickly and calmly to your building's designated assembly point or as advised by an Emergency Guide or Fire Brigade personnel Wait at the assembly point until counted and released by the TSO/DSO or the Fire Brigade.

Give to the Fire Brigade all the information they need! +41 22 767 44 44

In case of an emergency



- If needed, press **Fire Alarm** (see map on next slide)
- If electric danger present, press Emergency Stop switch located in each workshop area right next to the door
- Contact Fire Brigade, tel. +41 22 76 74444 (or internally, 74444)
- Go to the assembly point in front of the Globe, stay there until Fire Brigade gives you permission to leave.
- Notify immediately:
 - TSO Johann Poirot, johann.poirot@cern.ch, tel. +41 75 411 8883 (or internally, 168883)
 - Markus Nordberg, <u>markus.nordberg@cern.ch</u>, tel. +41 75 411 4452 (or internally, 164452)



Date:11.12.2014

EVACUATION

INCENDIE/FIRE

Set off the alarm

Inform others

Close doors and windows

Start fighting the fire

Things you can avoid for these 2 weeks

- ...climbing on top of the containers or the bus
- ...consuming or storing alcohol inside IdeaSquare
- ...entering unauthorised areas
- ...walking around without your visitor card and ID

Keeping places tidy

- Please, Please Me:
 - Bring all coffee cups, plates, dishes to kitchen, and put them inside the dish washer in status "Dirty".
 - Clean more than you mess, to fight our common enemy called Entropy.
 - Help collaboratively to clean up the space at the end of the day.

Thank you!

Greetings, the IdeaSquare Fairy named Markus





COVID is still here, unfortunately...







"The Escape Hatch"









"The Neckbeard"

"The Sniffer"

Masks are highly recommended inside ٠ IdeaSquare.

- Try to avoid having too many people in • one room.
- Don't come in if you are feeling sick. •
- Please do let us know if you get sick. •

https://hive.rochesterregional.org/2020/07/how-not-to-wear-a-mask

"The Nose Plug"

Room occupancy





Try not to crowd each room or container.

Keeping to 5-6 people each is a good rule of thumb.

Kitchen

6 people max, please.

Cooking is allowed provided that the number of people inside is not exceeded.





This is a CO_2 monitoring device, as part of our COVID measures.

There is one in every room or container inside ID2.

If the value exceeds 900ppm:

- Leave the room you are in to let it ventilate until the CO₂ concentration falls below 600 ppm.;
- Ask one of the ID2 members to open the main doors to ventilate the entire space.

Where are we...?

CERN is the world's biggest laboratory for particle physics.

CMS

CERN

ATLAS

CERN

«LHCb

LICE

Our goal is to understand the most fundamental particles and laws of the universe.

CERN's Mission



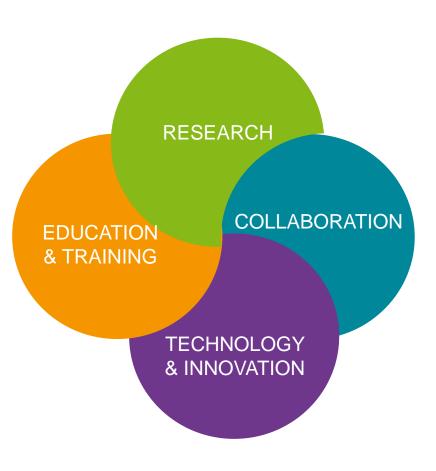
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CERN is a peace project, funded in the wake of the second world war that aims to:

- Push back the frontiers of knowledge;
- Answer questions about the beginning and the nature of the universe;
- Unite people from different countries
- and cultures;
- Train scientists and engineers of tomorrow;
- Develop new technologies for accelerators and detectors and other new solutions, such as more effective cancer treatment.

Photo by Claudia Marcelloni

Four pillars that underpin CERN's mission



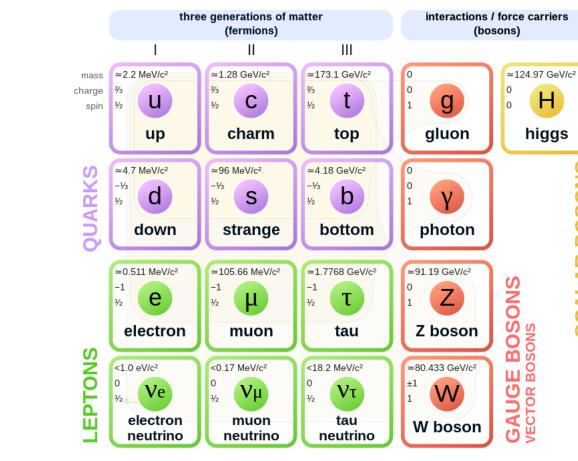
RESEARCH

Standard Model of Elementary Particles

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BOSON

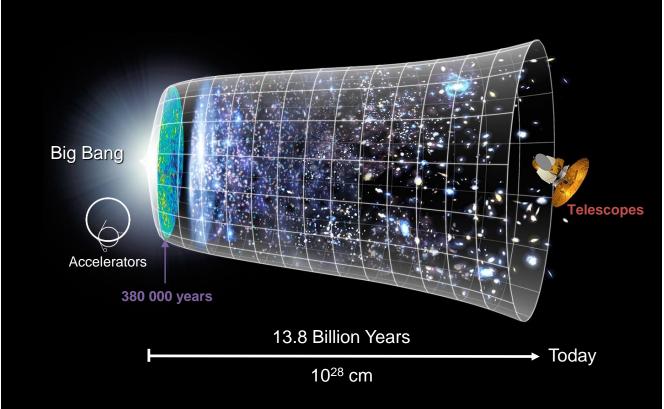
SCALAR



What is the universe made of?

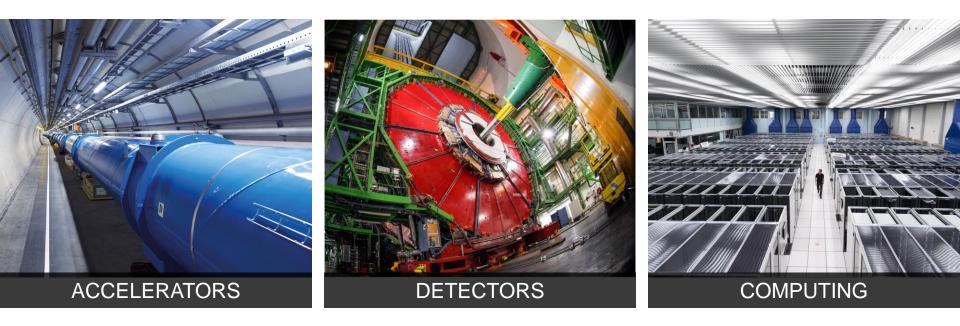
How did the universe begin?

We reproduce the conditions a fraction of a second after the Big Bang, to gain insight into the structure and evolution of the universe.



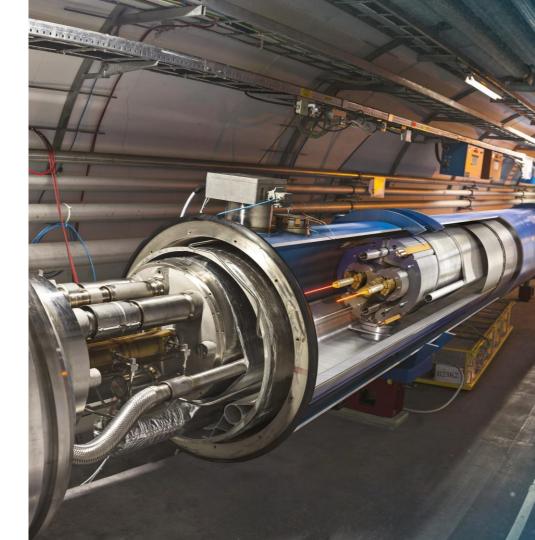
How do we do it?

We build the largest machines to study the smallest particles in the universe.
We develop technology to advance the limits of what is possible.

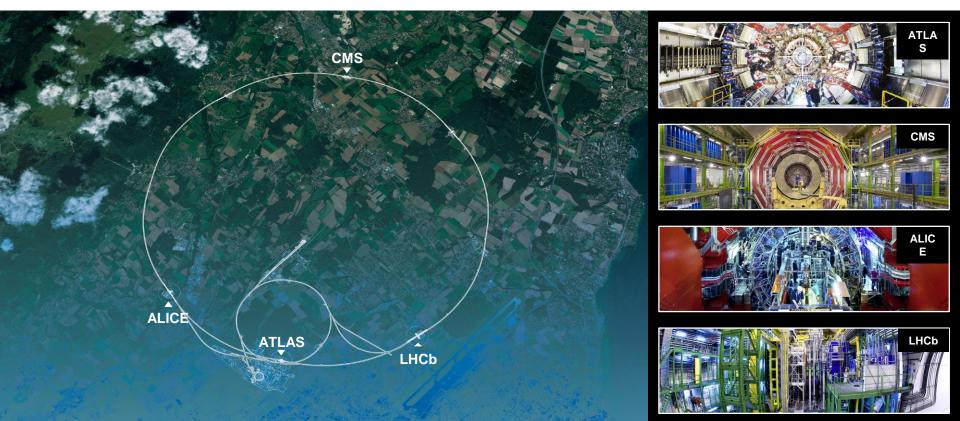


Large Hadron Collider (LHC)

- 27 km in circumference
- About 100 m underground
- Superconducting magnets steer the particles around the ring
- Particles are accelerated to close to the speed of light



Giant detectors record the particles formed at the four collision points



Are we done? Not quite...

There are many unanswered questions in fundamental physics 95% of the mass and energy of the universe is unknown.

Why is the universe made only of matter, with hardly any antimatter? Is there only one Higgs boson, and does it behave exactly as expected?

Why is gravity so weak compared to the other forces?





A laboratory for people around the world

<u>*</u>****************

Geographical & cultural diversity Users of **110 nationalities** ~ **23% women**

Member States 6632

Austria 82 – Belgium 122 – Bulgaria 37 – Czech Republic 221 Denmark 35 – Finland 79 – France 794 – Germany 1185 Greece 138 – Hungary 67 – Israel 63 – Italy 1388 Netherlands 166 – Norway 78 – Poland 272 – Portugal 80 Romania 99 – Serbia 35 – Slovakia 66 – Spain 325 Sweden 96 – Switzerland 329 – United Kingdom 875

Associate Member States 27

in the pre-stage to membership Cyprus 11 – Slovenia 16

Associate Member States **390** Croatia 38 – India 151 – Lithuania 13 – Pakistan 35 Turkey 124 – Ukraine 29

Observers 3071 Japan 211 – Russia 1021 – United States of America 1839



Other countries 1279

Algeria 2 – Argentina 15 – Armenia 10 – Australia 23 – Azerbaijan 2 – Bahrain 2 – Belarus 26 – Brazil 108 Canada 196 – Chile 22 – Colombia 15 – Cuba 3 – Ecuador 4 – Egypt 14 – Estonia 26 – Georgia 35 Hong Kong 20 – Iceland 3 – Indonesia 7 – Iran 13 – Ireland 6 Kuwait 2 – Latvia 6 – Lebanon 17 Malaysia 4 – Malta 3 – Mexico 49 – Montenegro 5 – Morocco 18 – New Zealand 11 – Oman 1 People's Republic of China 334 – Peru 2 – Puerto Rico 2 – Republic of Korea 132 – Singapore 3 South Africa 57 – Sri Lanka 8 – Taiwan 50 Thailand 16 – United Arab Emirates 2

Charged-particle multiplicities in pp interactions at $\sqrt{s} = 900$ GeV measured with the ATLAS detector at the LHC $3,33$			R. Beccherle ^{50a} , 1 A.J. Beddall ^{18c} , A M. Beimforde ⁹⁹ ,	F. Bauer ¹³⁵ , H.S. Baw N. Becerici ^{18a} , P. Becl M. Beddall ^{18c} , V.A. Bec G.A.N. Belanger ²⁸ , C. ellagamba ^{19a} , F. Bellin	htle ⁴¹ , G.A. Bec Inyakov ⁶⁵ , C. B Belanger-Chan	D. Isybychev J. J.M. Tuggle M. Tutala J. Diffecter A. In the Catti J. E. Infay J. P.M. Tuts J. M. Katti J. K. K
			O. Beltramello ²⁹	, A. Belymam ⁷⁵ , S. Be I. Benedict ¹⁶¹ , N. Ben	en Ami ¹⁵⁰ , O. E	S. Valkasn ¹⁴ , C. Valderanis ⁹⁹ , J. Valenta ¹²⁴ , P. Valenta ¹³¹ a, S. Valentinetti ^{132,19b} , S. Valkar ¹²⁵ , E. Valladolid Gallego ¹⁶⁵ , S. Vallecorsa ¹⁵⁰ , J.A. Valls Ferrer ¹⁶⁵ , R. Van Berg ¹¹⁹ , H. van der Graaf ¹⁰⁵ ,
ARTICLE INFO	A B S T R A C T		M. Benoit ¹¹⁴ , J.R. E. Bergeaas Kuut	. Bensinger ²² , K. Ben mann ^{144a, 144b} , N. Ber Bernhard ⁴⁸ , C. Berniu	slama ¹²⁹ , S. Be rger ⁴ , F. Bergha	E. Vandobilo Vanlego , S. Vanletorisa , J.A. Vanis Ferler , N. Van Berg , n. Van Uer Graaf , E. van der Kraaij ¹⁰⁵ , E. van der Poel ¹⁰⁵ , D. Van Der Ster ²⁹ , B. Van Eijk ¹⁰⁵ , N. van Eldik ⁸⁴ , P. van Gemmeren ⁵ , Z. van Kesteren ¹⁰⁵ , I. van Vulpen ¹⁰⁵ , W. Vandelli ²⁹ , G. Vandoni ²⁹ , A. Vaniachine ⁵ , P. Vankov ⁷³ , F. Vannucci ⁷⁸ , F. Varela Rodriguez ²⁹ , R. Vari ^{131a} , E.W. Varnes ⁶ , D. Varouchas ¹⁴ ,
Article history: Received 16 March 2010 Received in revised form 22 March 2010 Accepted 22 March 2010 Available online 28 March 2010	The first measurements from proton-proton collisions recorded with the ATLAS are presented. Data were collected in December 2009 using a minimum-bias tri at a centre-of-mass energy of 900 GeV. The charged-particle multiplicity, its depe momentum and pseudorapidity, and the relationship between mean transverse mor	ger during colli ndence on trans	M.I. Besana ^{89a,89} I. Biesiada ¹⁴ . M.	^{bb} , N. Besson ¹³⁵ , S. Be Biglietti ^{131a, 131b} , H. I C. Biscarat ¹⁷⁸ , R. Bisc	ethke ⁹⁹ , R.M. B Bilokon ⁴⁷ , M. E	40 ATLAS Collaboration / Physics Letters B 688 (2010) 21-42
Editor: WD. Schlatter	particle multiplicity are measured for events with at least one charged particle in $ \eta < 2.5$ and $p_T > 500$ MeV. The measurements are compared to Monte Carlo moo collisions and to results from other experiments at the same centre-of-mass energy	dels of proton-pr	32	4 C Blanchot 49 C B ATLAS	Collaboration / Physics Let	Z. Zhao ^{32b} , A. Zhemchugov ⁶⁵ , S. Zheng ^{32a} , J. Zhong ^{149,z} , B. Zhou ⁸⁷ , N. Zhou ³⁴ , Y. Zhou ¹⁴⁹ , C.G. Zhu ^{32d} , H. Zhu ⁴¹ , Y. Zhu ¹⁷⁰ , X. Zhuang ⁹⁸ , V. Zhuravlov ⁹⁹ , B. Zilka ^{143a} , R. Zimmermann ²⁰ , S. Zimmermann ²⁰ ,
Keywords: Charged-particle Multiplicities	multiplicity per event and unit of pseudorapidity at $\eta = 0$ is measured to be 1 0.040(syst.), which is 5-15% higher than the Monte Carlo models predict.		I.A. Christidi 77, A.	Christov ⁴⁸ , D. Chrom	ole Duralchart 29	S. Zimmermann ⁴⁸ , M. Ziolkowski ¹⁴⁰ , R. Zitoun ⁴ , L. Živković ³⁴ , V.V. Zmouchko ^{127,*} , G. Zobernig ¹⁷⁰ , ATLAS Collaboration / Physics Letters B 688 (2010) 21-42 4
900 GeV ATLAS		ished by Elsevier		, A.K. Ciftci ^{3a} , R. Ciftc illi ⁸⁷ , M. Citterio ^{89a} ,		711275 Conductation / Trysics Letters D 006 (2010/21=42
LHC Minimum bias	_		B. Clement 55, C. Cl	lement ^{144a, 144b} , D. Cl	63 Univers	sity of Jowa, 203 Van Allen Hall, Jowa City, IA 52242-1479, United States
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1. Introduction					67 Kobe Ur	igh Energy Accelerator Research Organization, 1-1 Oho, Tsukuba-shi, Ibaraki-ken 305-0801, Japan Iniversity, Graduate School of Science, 1-1 Rokkodai-cho, Nada-ku, JP - Kobe 657-8501, Japan
1. Introduction			souliotis ⁸ , B. Fatholah din ¹²⁰ , I. Fedorko ²⁹ ,		69 Kyoto U	Jniversity, Faculty of Science, Olwake-cho, Kitashirakawa, Sakyou-ku, Kyoto-shi, JP - Kyoto 606-8502, Japan Jniversity of Education, 1 Fukakusa, Fujimori, fushimi-ku, Kyoto-shi, JP - Kyoto 612-8522, Japan
	tions have been measured in pp and $p\bar{p}$ collisions at a range of different centre-		enyuk ¹²⁷ , J. Ferencei ¹		70 Univers	sidad Nacional de La Plata, FCE, Departamento de Física, IFLP (CONICET-UNLP), C.C. 67, 1900 La Plata, Argentina ter University, Physics Department, Lancaster LA1 4YB, United Kingdom
			ando ¹¹⁷ , V. Ferrara ⁴¹		72 INFN Se	ezione di Lecce ^(a) ; Università del Salento, Dipartimento di Fisica ^(b) , Via Arnesano, IT-73100 Lecce, Italy
			rere ⁴⁹ , C. Ferretti ⁸⁷ , I		73 Univers	sity of Liverpool, Oliver Lodge Laboratory, P.O. Box 147, Oxford Street, Liverpool L69 3BX, United Kingdom tefan Institute and University of Ljubljana, Department of Physics, SI-1000 Ljubljana, Slovenia
		A. Fili	opas ⁹ , F. Filthaut ¹⁰⁴ ,	M. Fincke-Keeler ¹⁰	75 Queen N	Mary University of London, Department of Physics, Mile End Road, London E1 4NS, United Kingdom
			her ²⁰ , M.J. Fisher ¹⁰⁸ ,		76 Royal H	Holloway, University of London, Department of Physics, Egham Hill, Egham, Surrey TW20 0EX, United Kingdom
events with no charged particles within the acceptance of the detector. The measurement presented in this letter in P. F			chmann ¹⁷¹ , S. Fleisc		78 Laborat	sity College London, Department of Physics and Astronomy, Gower Street, London WC1E 6BT, United Kingdom toire de Physique Nucléaire et de Hautes Energies, Université Pierre et Marie Curie (Paris 6), Université Denis Diderot (Paris-7), CNRS/IN2P3,
strategy, which uses a single-arm trigger overlapping with the acceptance of the tracking volume. Results are pr		F. Föhl	isch ^{58a} , M. Fokitis ⁹ ,	T. Fonseca Martin	Tour 33, 4	place Jussieu, FR-75252 Paris Cedex 05, France
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$\frac{1}{N_{ev}} \cdot \frac{dN_{ch}}{d\eta}, \frac{1}{N_{ev}} \cdot \frac{1}{2\pi p_{T}} \cdot \frac{d^{2}N_{ch}}{d\eta dp_{T}}, \frac{1}{N_{ev}} \cdot \frac{dN_{ev}}{dn_{ch}} \text{and} \langle p_{T} \rangle \text{ vs. } n_{ch}, \qquad \qquad$		V. Gal	onenko ¹⁴ M Carcia	enko 14 M. Carcia Sciveres 14 C Carl 87 The University of Michigan, Department of Physics, 2477 Randall Laboratory, 500 East University, Ann Arbor, MI 48109-1120, United		sty of metodarie, second of repsies, Ao - rarkvine, victoria 3010, Australia Viersity of Michigan, Department of Physics, 2477 Randal Laboratory, 500 East University, Ann Arbor, MI 48109–1120, United States
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ATLAS Collaboration		H. Gha	zlane 134d, P. Ghez 4,	N. Ghodbane ³³ , B.	94 P.N. L	¹³⁹ Shinshu University, Department of Physics, Faculty of Science, 3-1-1 Asahi, Matsumoto-shi, JP - Nagano 390-8621, Japan ¹⁴⁰ Universität Siegen, Fachbereich Physik, D-57068 Siegen, Cermany
			ngiobbe ^{121a,121b} , F. G		⁹⁵ Institi ⁹⁶ Moso	¹⁴¹ Simon Fraser University, Department of Physics, 8888 University Drive, CA - Burnaby, BC V5A 156, Canada
	ott ¹¹⁰ , J. Abdallah ¹¹ , A.A. Abdelalim ⁴⁹ , A. Abdesselam ¹¹⁷		ilbert ¹¹⁷ , M. Gilchrie		97 Lomo	 SLAC National Accelerator Laboratory, Stanford, CA 94309, United States Comenius University, Faculty of Mathematics, Physics & Informatics⁽⁶⁾, Mlynska dolina F2, SK-84248 Bratislava; Institute of Experimental Physics of the Slovak Academy of Sciences
B. Abi ¹¹¹ , M. Abolins ⁸⁸ , H. Ab	pramowicz ¹⁵¹ , H. Abreu ¹¹⁴ , E. Acerbi ^{89a,89b} , B.S. Acharya ¹	J. Ginz	burg ¹⁵¹ , N. Giokaris ⁸	⁸ , M.P. Giordani ¹⁶²	⁹⁸ Ludw ⁹⁹ Max-	Dept. of Subnuclear Physics ^(b) , Watsonova 47, SK-04353 Kosice, Slovak Republic
	N. Addy ⁵⁶ , J. Adelman ¹⁷³ , M. Aderholz ⁹⁹ , C. Adorisio ^{36a, 3}		raud ²⁹ , P. Girtler ⁶² , D	D. Giugni ^{69a} , P. Giu	100 Maga	¹⁴⁴ Stockholm University, Department of Physics ^(a) ; The Oskar Klein Centre ^(b) , AlbaNova, SE-106 91 Stockholm, Sweden ¹⁴⁵ Royal Institute of Technology (KTH), Physics Department, SE-106 91 Stockholm, Sweden
T. Adye 128, S. Aefsky 22, J.A. A	guilar-Saavedra ^{123b} , M. Aharrouche ⁸¹ , S.P. Ahlen ²¹ , F. Ahl	A. G				¹⁴⁶ Stony Brook University, Department of Physics and Astronomy, Nicolls Road, Stony Brook, NY 11794-3800, United States
	Ahsan ⁴⁰ , G. Aielli ^{132a, 132b} , T. Akdogan ^{18a} , P.F. Åkesson ²⁹ ,	T. Gö	36		ATLAS Collaborat	 ¹⁴⁷ University of Sussex, Department of Physics and Astronomy, Pevensey 2 Building, Falmer, Brighton BN1 90H, United Kingdom ¹⁴⁸ University of Sydney, School of Physics, AU - Sydney NSW 2006, Australia
	⁴ , A. Aktas ⁴⁸ , M.S. Alam ¹ , M.A. Alam ⁷⁶ , J. Albert ¹⁶⁷ , S. All	N. G R. G	N. Massal4	Anatura hanandir - 36	a.36b T M	 Institute of Physics, Academia Sinica, TW - Taipei 11529, Taiwan Technion, Israel Inst. of Technology, Department of Physics, Technion City, IL - Haifa 32000, Israel
	⁶⁵ , M. Aleppo ^{89a, 89b} , F. Alessandria ^{89a} , C. Alexa ^{25a} , G. Ale	B. G		Mastroberardino ³⁶		¹⁵¹ Tel Aviv University, Raymond and Beverly Sackler School of Physics and Astronomy, Ramat Aviv, IL - Tel Aviv 69978, Israel
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P.P. Allport ⁷³ , S.E. Allwood-Spiers ⁵³ , J. Almond ⁸² , A. Aloisio ^{102a, 102b} , R. Alon ¹⁶⁹ , A. Alo			J.K. Mayer ¹³⁰ , A	. Mayne ¹³⁸ , R. Ma	IZINI 145, M.	¹⁵⁴ Tokyo Metropolitan University, Graduate School of Science and Technology, 1-1 Minami-Osawa, Hachioji, Tokyo 192-0397, Japan
J. Alonso ¹⁴ , M.G. Alviggi ^{102a,102b} , K. Amako ⁶⁶ , P. Amaral ²⁹ , G. Ambrosini ¹⁶ , G. Ambrosi M. G		r. Mazzucato 45,	J. Mc Donald ⁸⁵ , S	.P. MC Kee	¹⁵⁵ Tokyo Institute of Technology, 2-12-1-H-34 O-Okayama, Meguro, Tokyo 152-8551, Japan ¹⁵⁶ University of Toronto, Department of Physics, 60 Saint George Street, Toronto MSS 1A7, Ontario, Canada	
C. Amelung ²² , V.V. Ammosov	^{127,*} , A. Amorim ^{123a} , G. Amorós ¹⁶⁵ , N. Amram ¹⁵¹ , C. Ana	A.G.	K.W. McFarlane	⁵⁶ , S. McGarvie ⁷⁶ ,	H. McGlone	¹⁵⁷ TRIUMF ^(a) , 4004 Wesbrook Mall, Vancouver, B.C. V6T 2A3; York University ^(b) , Department of Physics and Astronomy, 4700 Keele St., Toronto, Ontario, M3J 1P3, Canada
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TECHNOLOGY & INNOVATION

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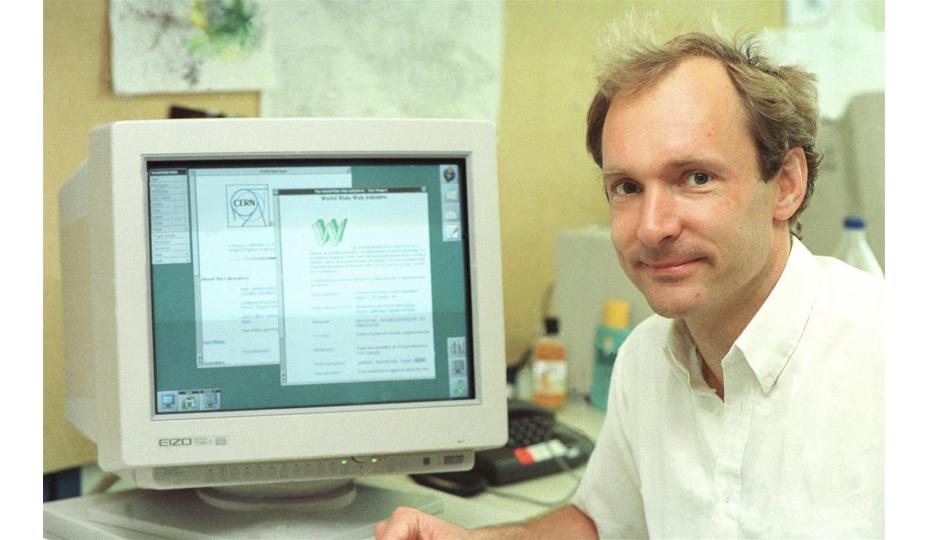
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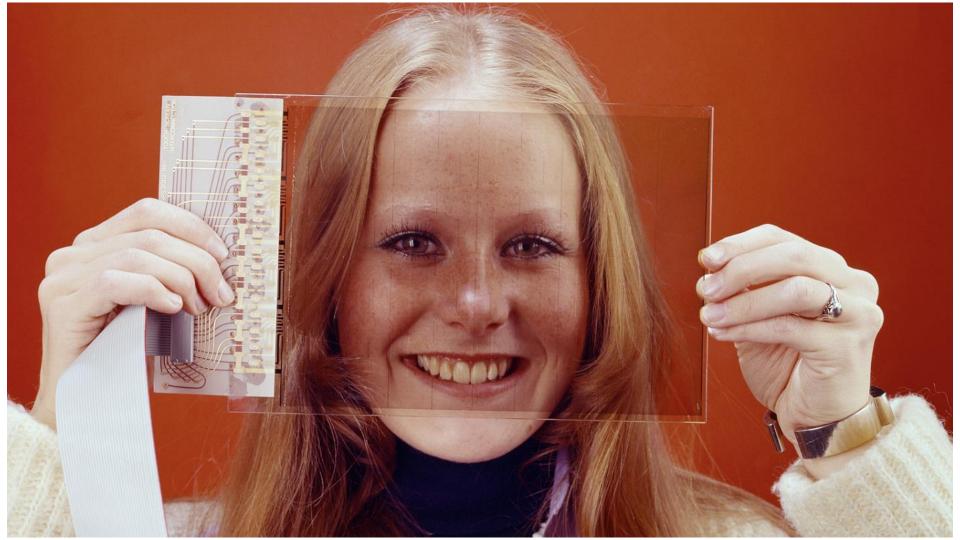
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Two Birds With One Proton Beam: CERN Now Makes Radioisotopes For Medical Research

HURES01-179

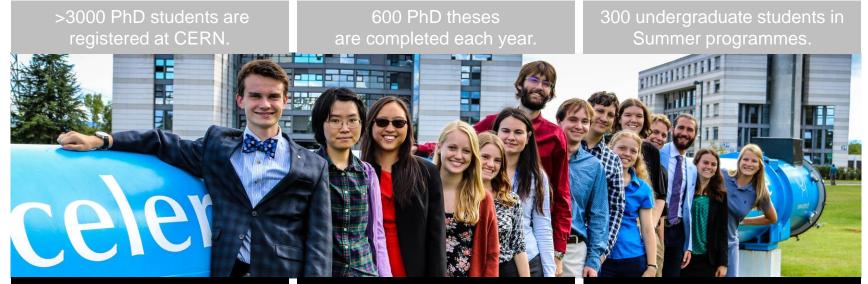
Forbes



Ø

FESTI

CERN trains the next generation of physicists, engineers and technicians



~800 fellows in research and applied physics, engineering and computing.

~200 Technical and Doctoral Students in applied physics, engineering and computing. CERN organises schools for undergraduates and postgraduates, in all regions.

CERN Science Gateway

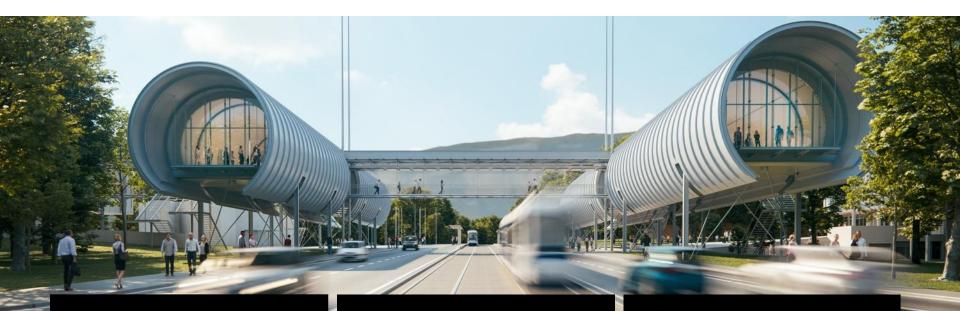
1000 CO.

Aka big noisy construction site outside

CERN IdeaSquare

-

CERN Science Gateway



- CERN's new education and outreach centre for all publics aged 5-plus.
- Opening beginning of 2023.

Immersive exhibitions, education labs, events and shows.

Coffee and Space Break

back in 10min

WHERE'S THE INTERNET?!

Registering your device in the CERN network

Go to the following link or scan the QR code

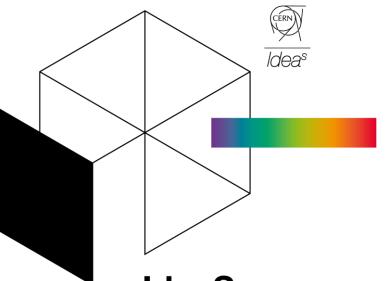


http://cern.ch/register VisitorComputer

1. Fill in your personal details.

If the MAC address does not show up automatically, please retrieve it from your Phone/Laptop Settings Menu – it should be under hardware details or status. Click Next.

- 2. Select the correct dates.
- 3. Put Catarina Batista as contact person.
- 4. Click Register and wait for approval
- 5. Let the page refresh by itself

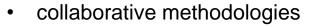


IdeaSquare Why and How?



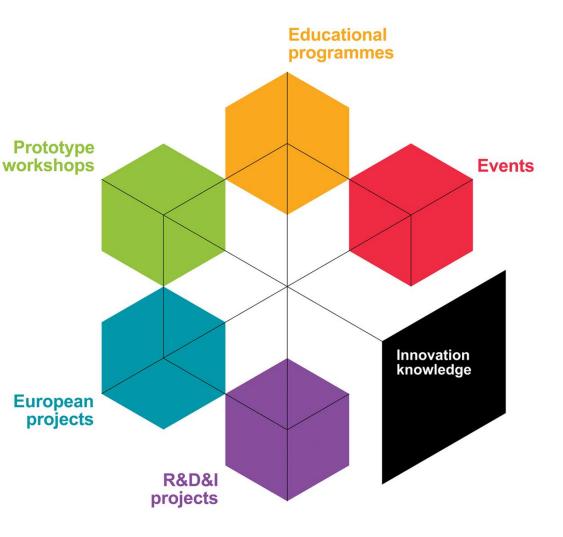
IdeaSquare

The Innovation Space at CERN



- access to CERN expertise
- cross-connectivity

To ideate solutions for the **future of humankind**.



Why IdeaSquare?



We believe that for fundamental change to be made, we need more than traditional innovation methods and mindsets.

We enable students and innovators to imagine a future worth fighting for, and we give them the tools and confidence to start building that future.

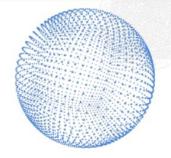


Linking science innovation and the SDGs

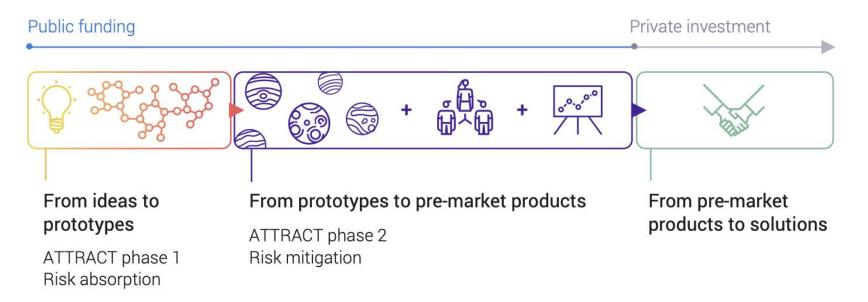


Developing breakthrough technologies for science and society





Absorbing and reducing the risk to the market





Connecting curious minds

Events, workshops and hackatons



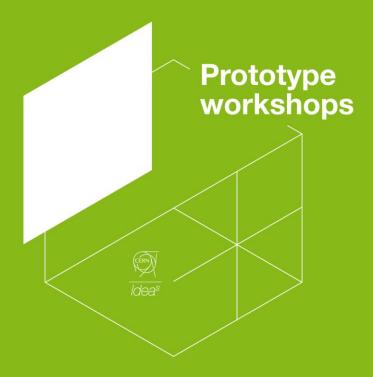


When the building is not in full use, Ideasquare can offer access to its open work areas, rapid prototyping facilities and its meeting rooms for short, deadline driven Challenge Events, such as :

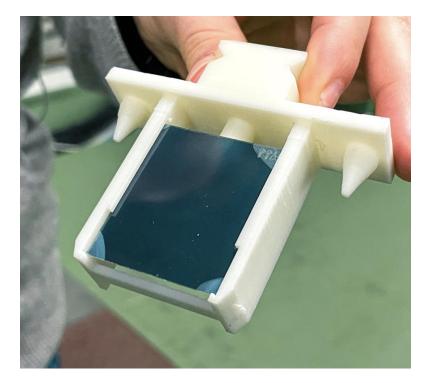
- Innovation Events,
- Workshops
- Hackathons (an event compressed into a short number of days where participants work towards a concept prototype).



Hackathon for the visually impaired for the development of the CERN Exhibitions



Fast forward through prototyping

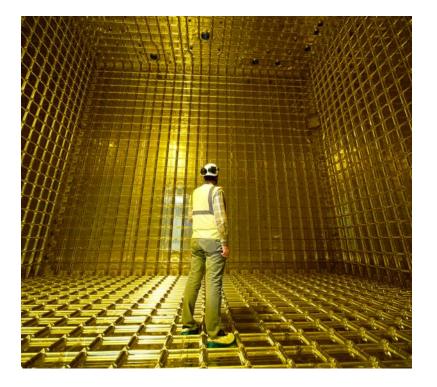


- CLEAR primary focus is on general accelerator R&D and component studies for existing and possible future machines
- Prototyping and validation of accelerator components, and studies of high-gradient acceleration methods.
- Radiation hardness of electronic components for space and high-energy physics;
- Dosimetry for medical applications (cancer therapy).



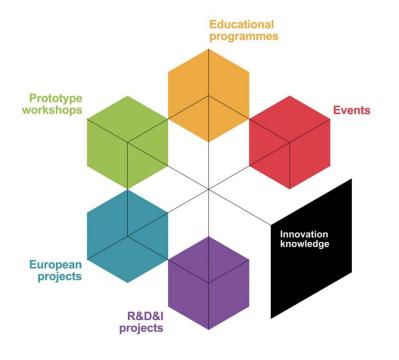
Stimulating instrumentation in research

Neutrino Platform



- Neutrino Platform (CENF) fosters fundamental research in the field of Neutrino Accelerator Physics
- CENF supports generic detector, neutrino beams R&D and large detector prototypes or demonstrators. It gives technical, financial and logistics support to approved projects
- Currently includes seven projects, including significant involvement in (Proto) Dune
- CERN & IdeaSquare provides a facility for R&D on future technologies (HW and SW) and partner in several neutrino research programs

Innovation Knowledge



- IdeaSquare is uniquely positioned to collect knowledge on innovation practices.
- To collect and share this knowledge, we established CIJ an open journal for experimental innovation.
- Additionally, our blogs and videos from the innovation café aim to harvest the success (or experimentations) stories of those at CERN that use our space or collaborate with us in any of our activities.

CIJ is only in its 5th edition and has already become a publication of reference for thought-provoking, contemporary and experimental innovation research. It has published 46 original papers and counted with the contribution of more than 250 authors from 20 countries around the world.



Training and experimenting with the innovators of the future

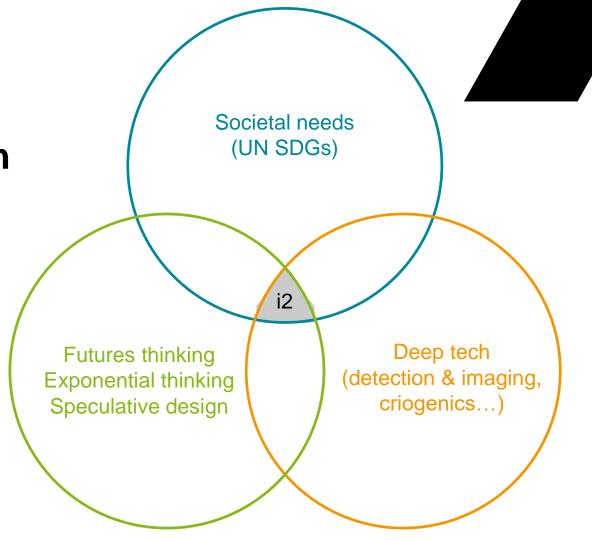
Challenge Based Innovation (CBI)





- +22 active program collaborations;
- Universities from 8 different countries;
- Design Thinking methods to solve global challenges, intersected with deep tech;
- UN Sustainable Development Goals as a lens in the process;
- Multidisciplinary teams of students: business, design, engineering, social sciences...
- CERN researchers who act as technological coaches.

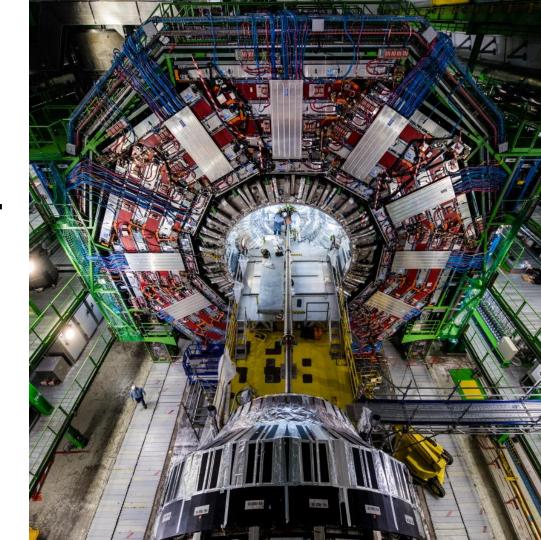
Intersecting societal challenges with deep tech



Business as usual is not in our DNA, but we also don't want any "magic"...

Ideas should be disruptive, without:

- Breaking the laws of physics;
- Causing more harm than good.



Our specialties



- Order of magnitude thinking (+ estimations!)
 - Ideas should be disruptive enough to generate excitement
 - While also having a substantial basis behind "Do the math"
- Systemic and Exponential thinking
 - Going for exponential ideas
 - Thinking in planetary levels
 - Nothing is so great that there is nothing bad: what are the implications of your solution?





Join our Alumni group!



