

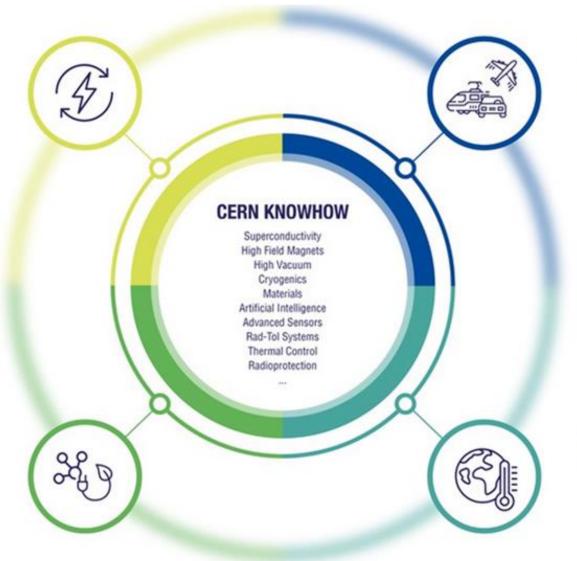
CIPEA Innovation Day Conclusions

Enrico Chesta CIPEA Coordinator

Environmental Applications: Key Areas for CERN

RENEWABLE AND LOW-CARBON ENERGY

Production Transformation Distribution Storage



CLEAN TRANSPORTATION AND FUTURE MOBILITY

Aviation Shipping Rail Automotive

SUSTAINABILITY AND GREEN SCIENCE

Power Management Heat Management Industrial Processes



Monitoring Modelling Mitigation



Bundling efforts to increase efficiency and visibility



Compact Fusion Energy Systems

Technologies for Hydrogen storage and handling SC technologies for on-board and long distance energy distribution

Fast, autonomous long distance transportation



Accelerator Driven Nuclear Systems

Protection systems for SC based energy generators

Technologies for fuel cells, batteries and PV efficiency improvement

Accelerator technologies for on-board and industrial pollution reduction

Fast, low-power, advanced ML/DL based computing

Energy saving techniques based on digital twins

Efficient, low GHG thermal control systems

Al platforms for environmental modelling

Platforms for consumption and emissions monitoring and optimization

Detectors and instruments for environmental monitoring







CIPEA submitted proposals









































CIPEA phases

IDEATION PITCHING IMPLEMENTATION March-May 2022 Starts in July 2022 June 2022 Discuss and Identify new ideas celebrate Define support strategies (done) selected projects (today)



CIPEA implementation

- Support strategies will be defined for every CIPEA project
- Options include:
 - Use of internal instruments like the KT Fund or the Impact Fund
 - Establishment of bilateral partnerships with external organisations
 - Coordination or participation to EU or national projects
 - Other possible internal funding options tbd
- A KT Fund session with focus on environmental projects will be organised on 22 September (deadline to apply: 8 August)
- KT team will liaise with the technical departments representatives and reach every CIPEA project team to discuss next steps on a case by case basis

COULD YOUR TECHNOLOGY BE APPLIED OUTSIDE OF HIGH-ENERGY PHYSICS? The Knowledge Transfer (KT) group can help you find resources to accelerate your project between CERN and society

Apply for the Knowledge Transfer fund or Medical Applications budget by 8 August 2022

Medical Applications Project Forum on 15 June or 13 July. Programme on Environmental Applications (CIPEA)





Conclusions

- The amount and variety of ideas submitted demonstrates that there is a broad and strong interest from experts across CERN to contribute
- The CIPEA team will, together with the experts, determine the best way forward for each of the 15 approved ideas in the months to come
- IPT/KT will define and streamline a coherent strategy for CERN Environmental Applications to maximize impact on society and the return for the Organization in terms of image and direct benefits

Let's create real tangible impact together and show that CERN can help to tackle climate and environmental issues on a global scale!



Acknowledgments to:

- All CIPEA projects internal and external contributors
- All the people who provided ideas in the brainstorming phase
- HSE/ENV team for the coordination with the environmental awareness initiative
- The INET members for their coordination role in each department
- IdeaSquare team for hosting the event
- IR/ECO for supporting CIPEA communication on the Bulletin and in particular Fabienne for the CIPEA graphical identity
- The KT colleagues for their fantastic help, in particular the BD Section (Han, Amanda, Filipe, Ben, Ash, Matteo, Nick, Margherita, Hafida, Alessandro), the KT Communication team (Manu, Marzena, Antoine, Helen, Priyanka, Olivia) and GAO (Mariane)
- Special thanks to Linn Kretzschmar for her front line help and key role in identifying, shaping and (soon) following up the CIPEA projects
- The participants to the CIPEA Innovation Day for their interest and support!

A big thank you!

