



# Lessons in outreach!

**From the most successfully communicated KT story of 2021**

Priyanka Dasgupta | Knowledge Transfer group

16 November 2021

# KT Success Stories

- ❑ Demonstrate closer links to the society / broad public
- ❑ Good tools to show to different audiences about how science connects to their lives.
- ❑ Show the society how PP is present and important in their everyday lives and for the global future development



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# Social media campaigns as a tool to boost visibility of CERN's collaborations and impact in Medtech

# MARS Bioimaging Campaign

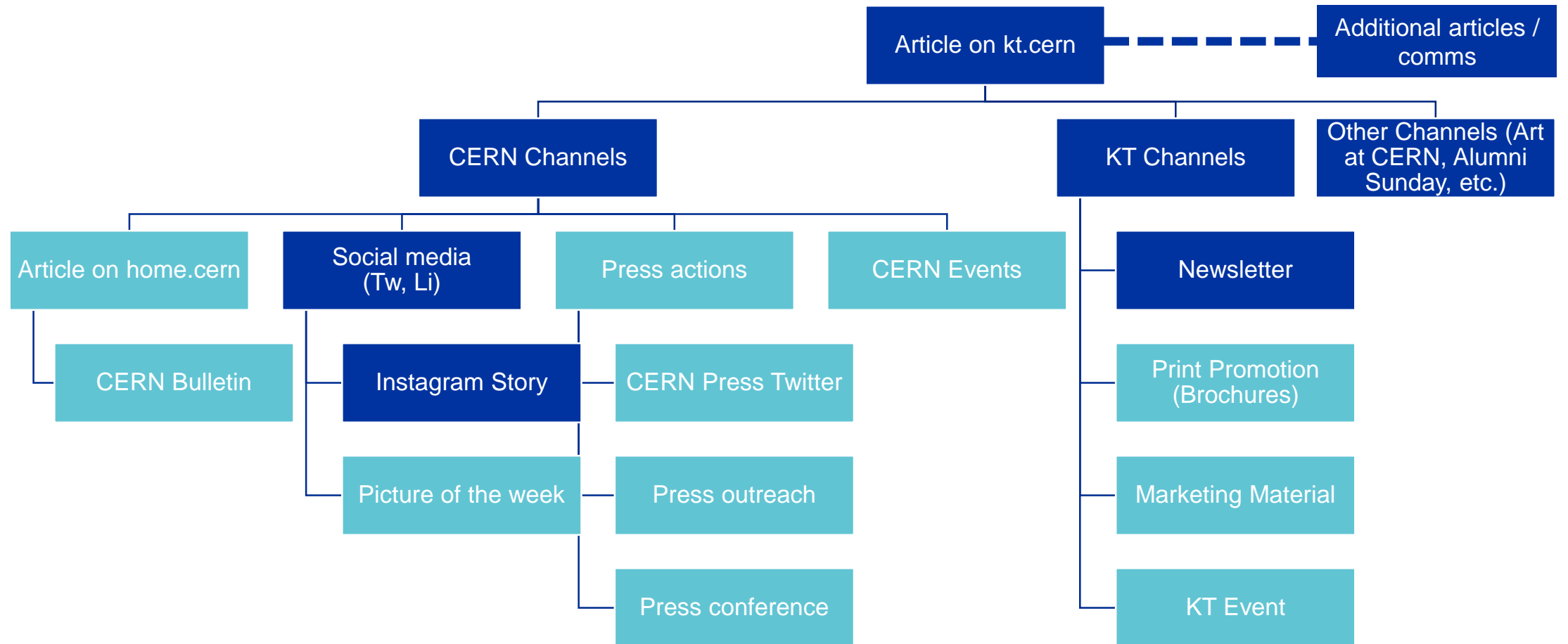


# From CERN Technologies...

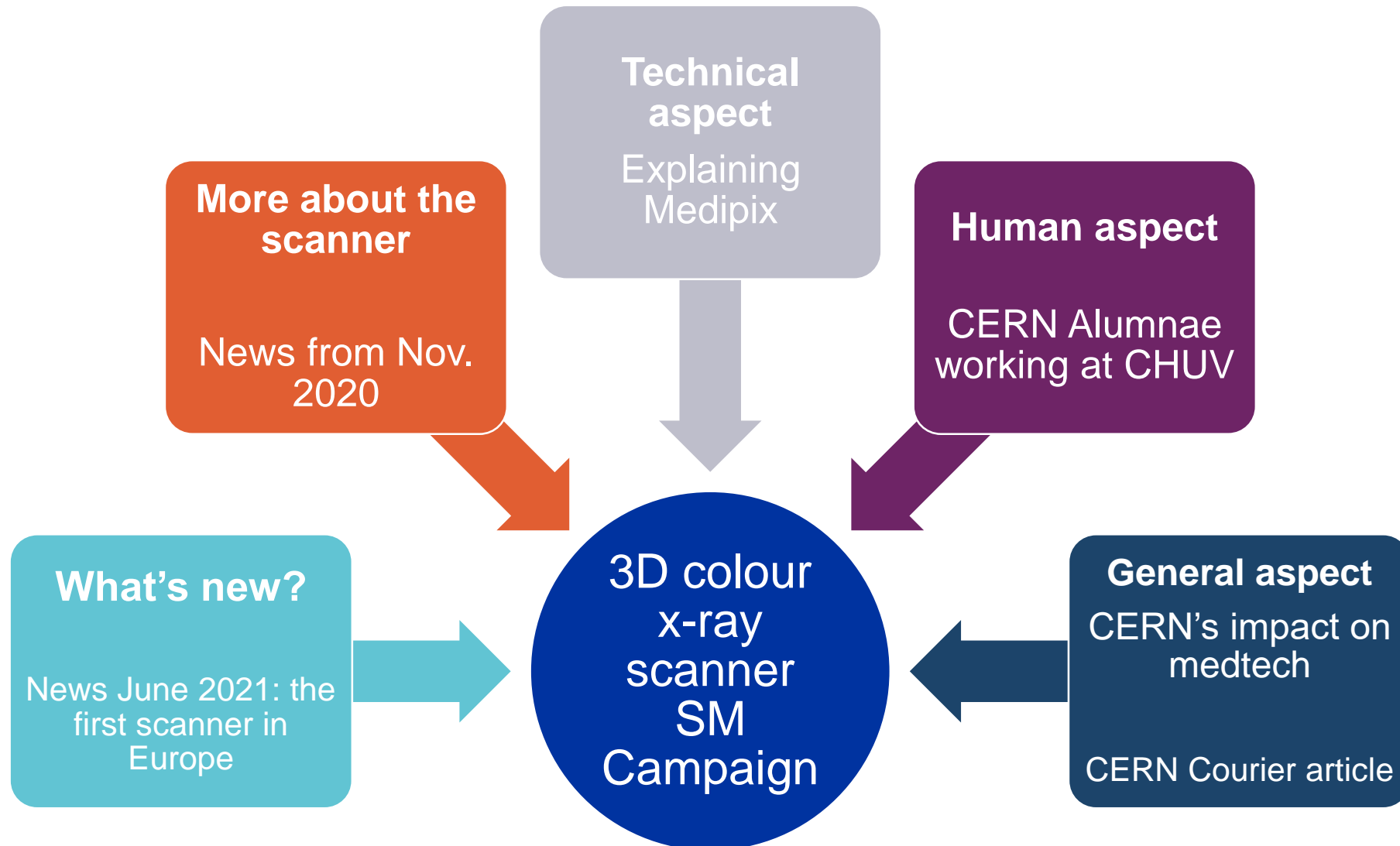


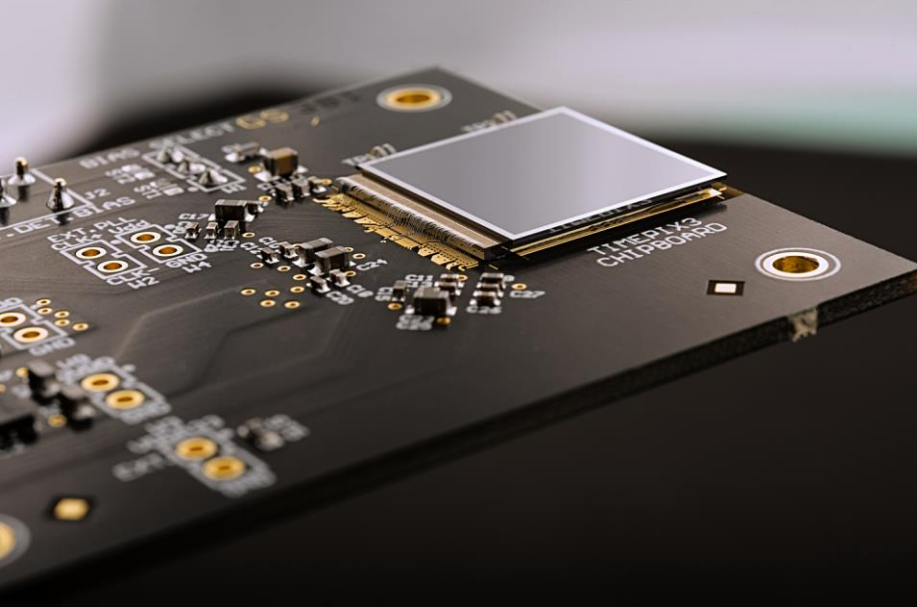
... to Society

# 3D colour X-ray scanner - campaign channels

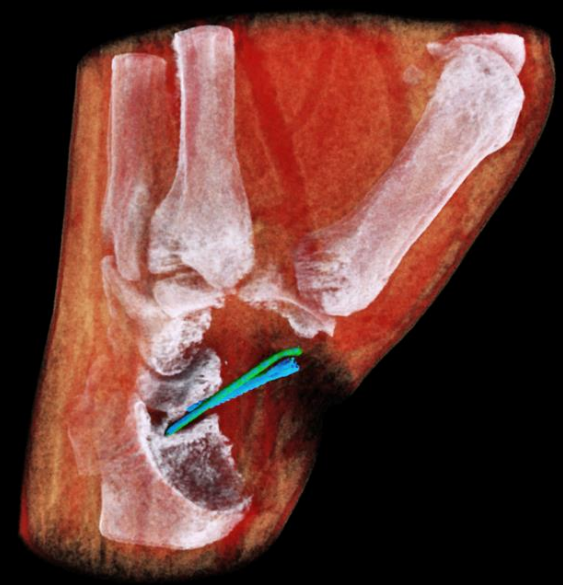
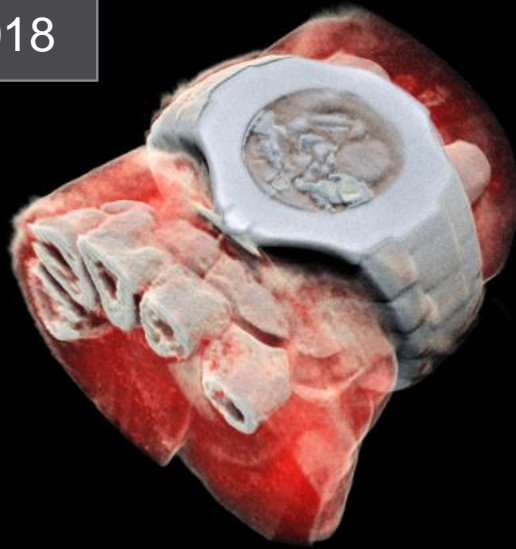


# Well-rounded Social Media (SM) campaign





2018



2020



MARS team 2021



From New Zealand to Switzerland June 2021



CHUV team 2021

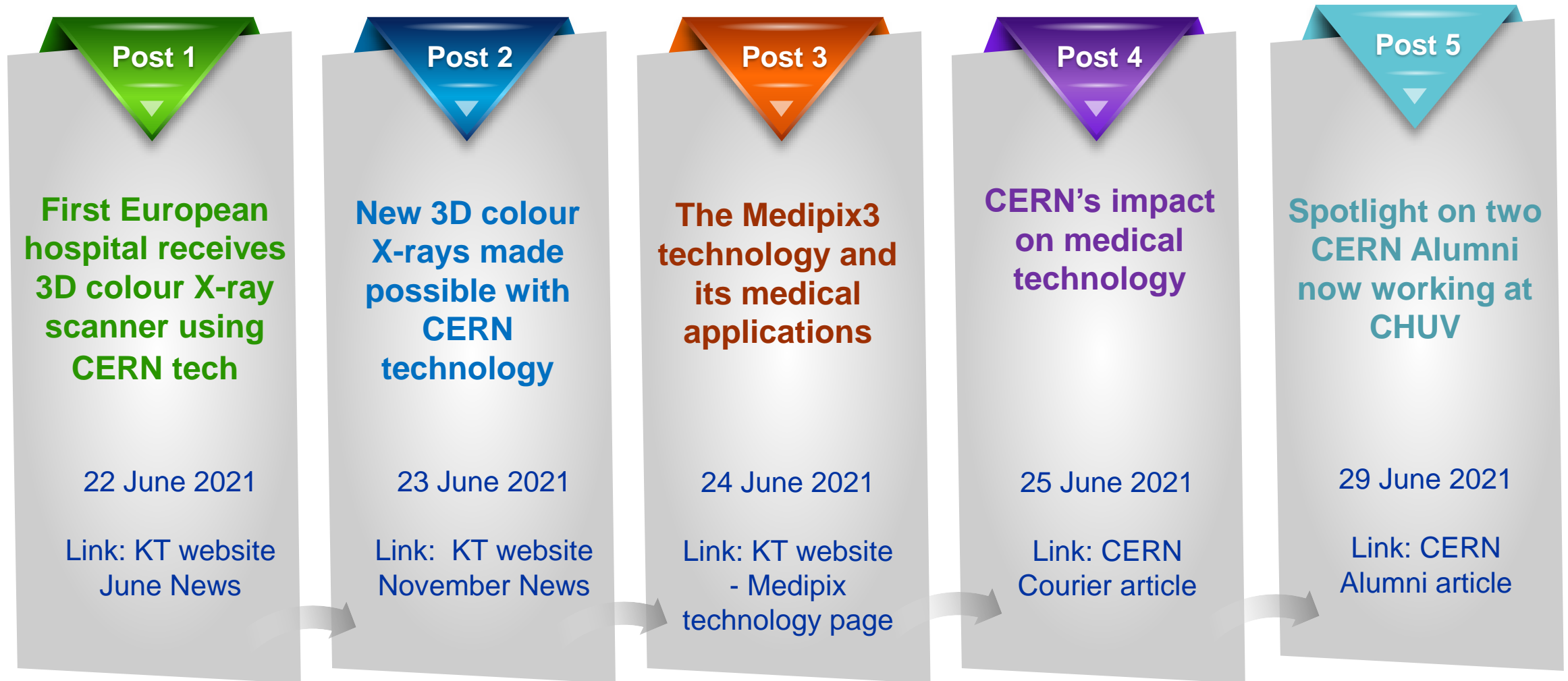


# Collaboration between various partners

CERN Social  
Media Team



# Well-rounded Social Media (SM) campaign



# CERN channels

LinkedIn & Twitter

# CERN channels: LinkedIn

#CERNImpact

#CERNKT

#Medipix

**CERN**  
217 982 abonnés  
3 sem. • Modifié •

#CERNImpact in medical imaging (part 1/5): Charting the future of medical imaging

After years of development in New Zealand, **MARS Bioimaging Ltd's** 3D colour X-ray scanner has arrived in Europe, at the Swiss hospital **CHUV | Lausanne university hospital**. This marks the beginning of the European part of international clinical trials, undertaken to allow the medical use of this scanner, which is based on CERN technology.

"The scanner will allow us to improve our understanding of arthritis: how it develops and how to diagnose it. It should help us develop the targeted therapies that we are currently lacking for calcium crystal deposition diseases," explains Fabio Becce, Associate Physician at **CHUV | Department of diagnostic and interventional radiology**.

This week, we take a look at this exemplary case of **#knowledgetransfer** between CERN and the medtech world.

#CERNKT #AcceleratingInnovation #Medipix

Voir la traduction



First European hospital receives 3D colour X-ray scanner using CERN technology

kt.cern • Lecture de 2 min

1794 • 23 commentaires

**CERN**  
217 982 abonnés  
3 sem. •

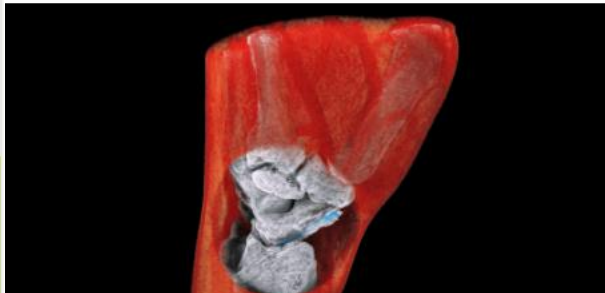
#CERNImpact in medical imaging (part 2/5)

Since 2008, CERN and **MARS Bioimaging Ltd** have joined forces to develop a 3D colour X-ray scanner based on the **#Medipix 3** detector chip technology, developed by Medipix3 collaboration hosted by CERN. The scanner does not use any contrast agents and allows significant progress in both diagnosing fractures and monitoring the subsequent bone healing.

#CERNKT #AcceleratingInnovation

Read more about this collaboration: <https://lnkd.in/d-qFGau>

Voir la traduction



**CERN**  
217 982 abonnés  
2 sem. •

#CERNImpact in medical imaging (part 3/5)

Based on hybrid pixel detector technology originally developed for particle physics, Medipix3 and Timepix3 chips address many other applications beyond the **MARS Bioimaging Ltd** scanner. In the medical field, the technology has been applied to X-ray CT prototype systems for digital mammography, CT imagers for mammography, and autoradiography of biological samples. A versatile technology, we also find Medipix3 and Timepix3 chips used in space missions, for art authentication and by teachers to demonstrate particle physics.

#CERNKT #AcceleratingInnovation #Medipix #Timepix

Voir la traduction

**CERN**  
217 982 abonnés  
2 sem. •

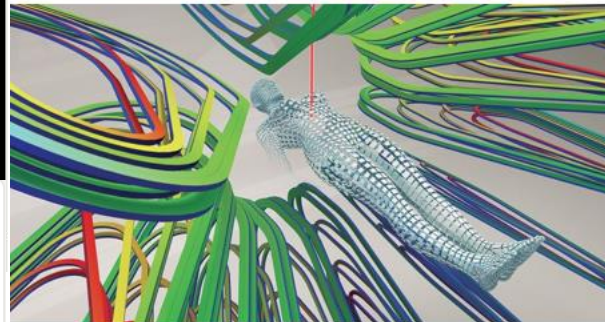
#CERNImpact in medical imaging (part 4/5)

CERN has been historically involved in **#knowledgetransfer** in the field of medical applications. CERN scientist Georges Charpak always strived to ensure that the Nobel-prize-winning detector that he invented in 1968 could also be used outside particle physics – for example in medical imaging, where its sensitivity promised to reduce radiation doses during imaging procedures. In his efforts to make a positive impact on society, in particular through medical applications of his technology, Charpak also ventured into entrepreneurship, making him a great inspiration for today's innovators.

Around the same time, David Townsend and Alan Jeavons contributed to improving PET imaging through novel reconstruction software and detector technologies.

#CERNKT #AcceleratingInnovation #Medipix

Voir la traduction



CERN's impact on medical technology – CERN Courier

cerncourier.com • Lecture de 15 min

640 • 2 commentaires

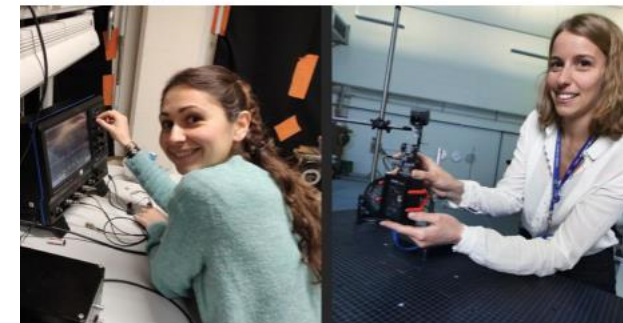
**CERN**  
217 982 abonnés  
2 sem. •

#CERNImpact in medical imaging (part 5/5)

Beyond **#knowledgetransfer**, this cooperation also highlights the achievements of **#CERNalumni**. Various CERN Alumni have been involved in the scanner's radiological safety. Among them is **Lucia Gallego Manzano** and **Marie Nowak, PhD**, former CERN fellow in radioprotection, and now at the Institut de radiophysique (IRA) of **CHUV / Centre hospitalier universitaire vaudois**.

#CERNKT #AcceleratingInnovation #Medipix

Voir la traduction



Building on a CERN Experience to conduct exciting research

alumni.cern • Lecture de 12 min

584 • 5 commentaires



# CERN channels: LinkedIn

Title	Impressions	Engagement	2021 Ranking
Post 1 – First European hospital receives 3D colour X-ray scanner using CERN technology	93 000	3,68%	4 <sup>th</sup> / 143
Post 2 – New 3D colour X-rays made possible with CERN technology	31 000	3,40%	
Post 3 – Medipix3 - KT technology page	28 000	3,04%	
Post 4 – CERN Courier article	38 000	3,09%	
Post 5 – Alumni article (two CERN Alumnae involved)	54 000	3,01%	34 <sup>th</sup> / 143
Post 6 – Newsletter	22 000	2,62%	

## Best KT stories of 2021

- BioDynamo : 88k.
- CLEAR: 59k.
- FLASH video: 53k.

## Average CERN story

Impressions: 25-30k  
Engagement: 3%

## Top CERN stories of 2021

- LHCb measurement : 147k.
- Woman in science: 117k.
- ALPHA antimatter cooling: 100k.

# Partners' channels

# Our partners' social media

**CHUV | Service de radiodiagnostic et radiologie intervention...** 570 abonnés  
3 sem. • Modifié •

The **CHUV | Lausanne university hospital** becomes the first European Center to host a spectral photon counting scanner designed in New Zealand (MARS scanner from **MARS Bioimaging Ltd**), featuring high precision **#Medipix 3** X-ray detectors developed at **CERN**, the ultimate example of technology transfer from fundamental research in high energy physics to clinical application in the medical field.

One of the major research areas on this novel scanner dedicated to peripheral joints will be musculoskeletal imaging, namely crystal deposition diseases including gout (urate) and chondrocalcinosis (calcium).

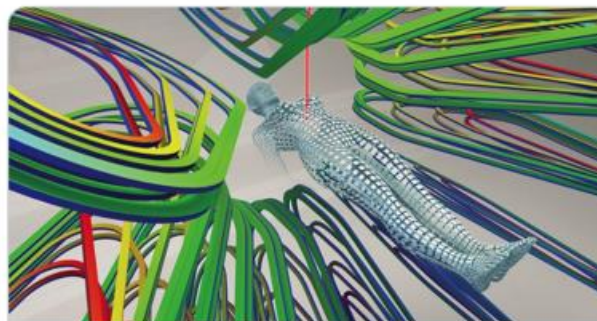
Le **CHUV | Lausanne university hospital** devient le premier centre en Europe à accueillir un scanner spectral à comptage photonique néo-zélandais (scanner MARS de **MARS Bioimaging Ltd**) qui intègre des détecteurs de rayons X à pixels de haute précision **#Medipix 3** développés au **CERN**, et contribue ainsi à donner un superbe exemple de transfert de technologie de la recherche fondamentale en physique des hautes énergies aux applications médicales cliniques.

L'un des sujets de recherche phare sur ce scanner novateur dédié aux articulations périphériques sera l'imagerie musculo-squelettique, notamment les arthropathies associées aux dépôts de cristaux d'urate (goutte) et de calcium (chondrocalcinose).

University of Lausanne - UNIL **CHUV | Department of diagnostic and interventional radiology** Anais Viry Pierre Carbonez Jérôme DAMET Lucia Gallego Manzano Fabio Becce  
**#innovationinhealthcare #ctscan**

**CERN Courier** @CERNCourier · Jun 27  
Functional imaging. Colour X-rays. Dosimetry. Cancer treatment. Radioisotope production. Biological simulations of drugs, tumours and viruses.

The list of **#medtech** sectors accelerated by particle-physics technology is long, writes CERN's Manuela Cirilli.



CERN's impact on medical technology – CERN Courier  
Frontier instruments like the LHC and its detectors not only push back the boundaries of our knowledge, but also catalyse innovative ...  
cerncourier.com

4 74 183

**MARS Bioimaging Ltd**  
792 abonnés  
3 sem. •

"The partnership between **CERN**, the Medipix3 Collaboration, and **MARS Bioimaging** shows how teaming up with health professionals is critical to enhance medical innovation."

...voir plus

Voir la traduction

**CERN**  
217 994 abonnés  
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**#CERNImpact** in medical imaging (part 1/5): Charting the future of medical imaging

...voir plus

Voir la traduction



First European hospital receives 3D colour X-ray scanner using CERN technology

kt.cern • Lecture de 2 min

29

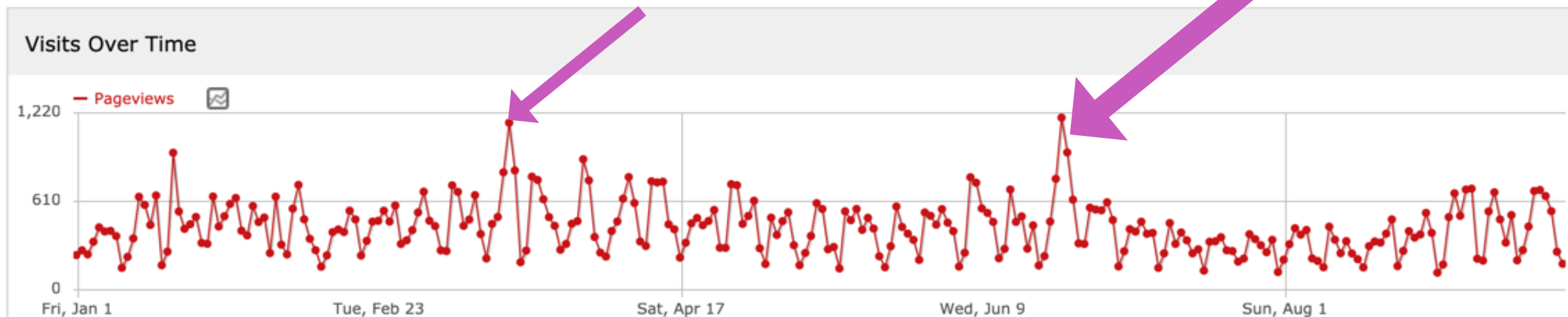
# KT channels



# Peak audience on kt.cern

Media update: CERN  
(KT) Impact Fund

MARS scanner campaign



## Press Release/Media update = full package:

- Home.cern
- Facebook
- Twitter EN & FR
- Twitter Press
- LinkedIn
- Instagram
- Push to the journalists

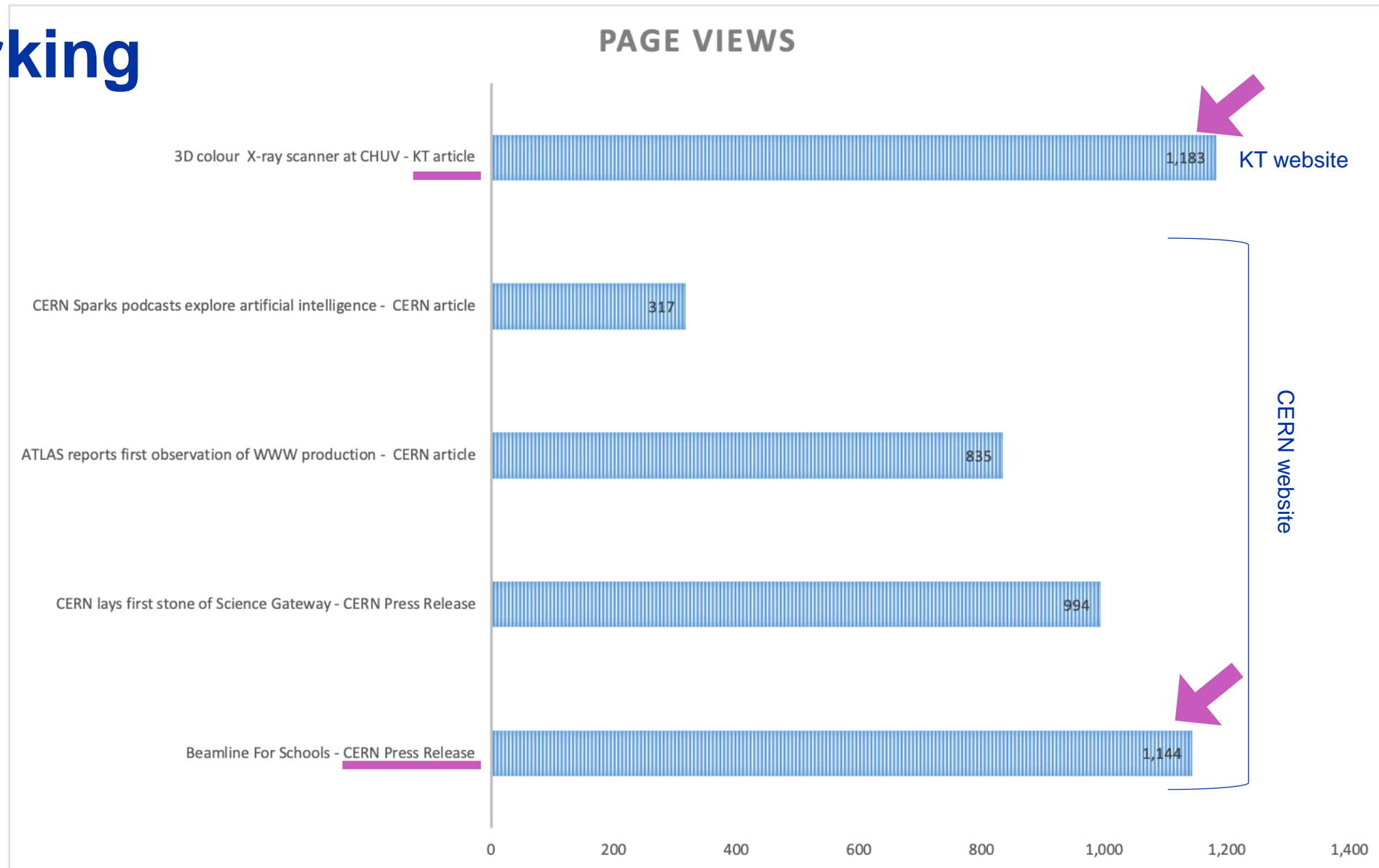
## KT website article / MARS scanner campaign:

- KT website
- Twitter EN
- LinkedIn
- Instagram (Stories)

# Benchmarking

Similar reach  
to a CERN  
Press  
Release!

Source:  
kt.cern – Piwiki  
home.cern – Google Analytics



# Success factors

# Cheat Sheet for future SM campaigns



# Conclusions

# Lessons learnt

- ❖ A one-week, multichannel campaigns are a good way to highlight KT activities:
  - **Well-thought** out campaigns instead of news driver posts
  - **Attention span is very low** nowadays → breaking the story to smaller chunks of information, each shared on a different day allows to explain the topic in depth, and not only focus on the news angle of our partner's milestone but shine some light on the technology itself
  
- ❖ We need at least 1-2 month from the idea to the execution:
  - Agreeing on the concept with the CERN ECO team
  - Campaign design
  - Collection/production of visuals (through our partners)
  - Approvals (via partners)
  - Content release (with CERN Social Media team)
  - Follow up during the campaign (making sure our partners have all texts/links to share)

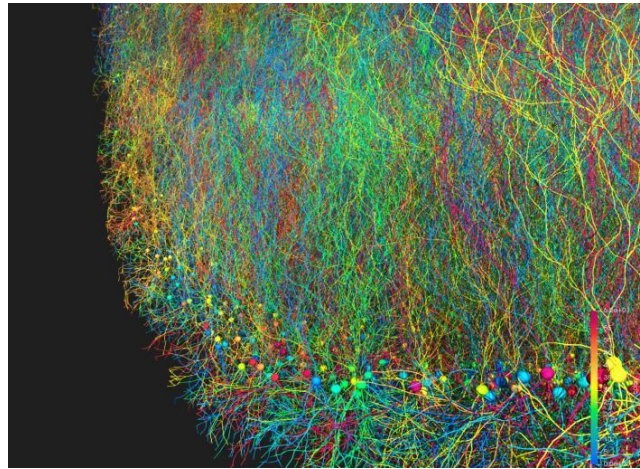
# Other KT Success Stories

See all developments in Knowledge Transfer <https://kt.cern/news>

Some prominent examples (2020-21).....



# KT Success Stories: Stand against COVID-19



## BioDynaMo

Data-analysis and simulation platforms for life sciences, most recently used for simulating the spread of COVID-19.

## Personal Protective Equipment

CERN releases face shields and masks developed under the *CERN against COVID-19* programme under its Open Hardware Licence



## High-Energy Ventilator

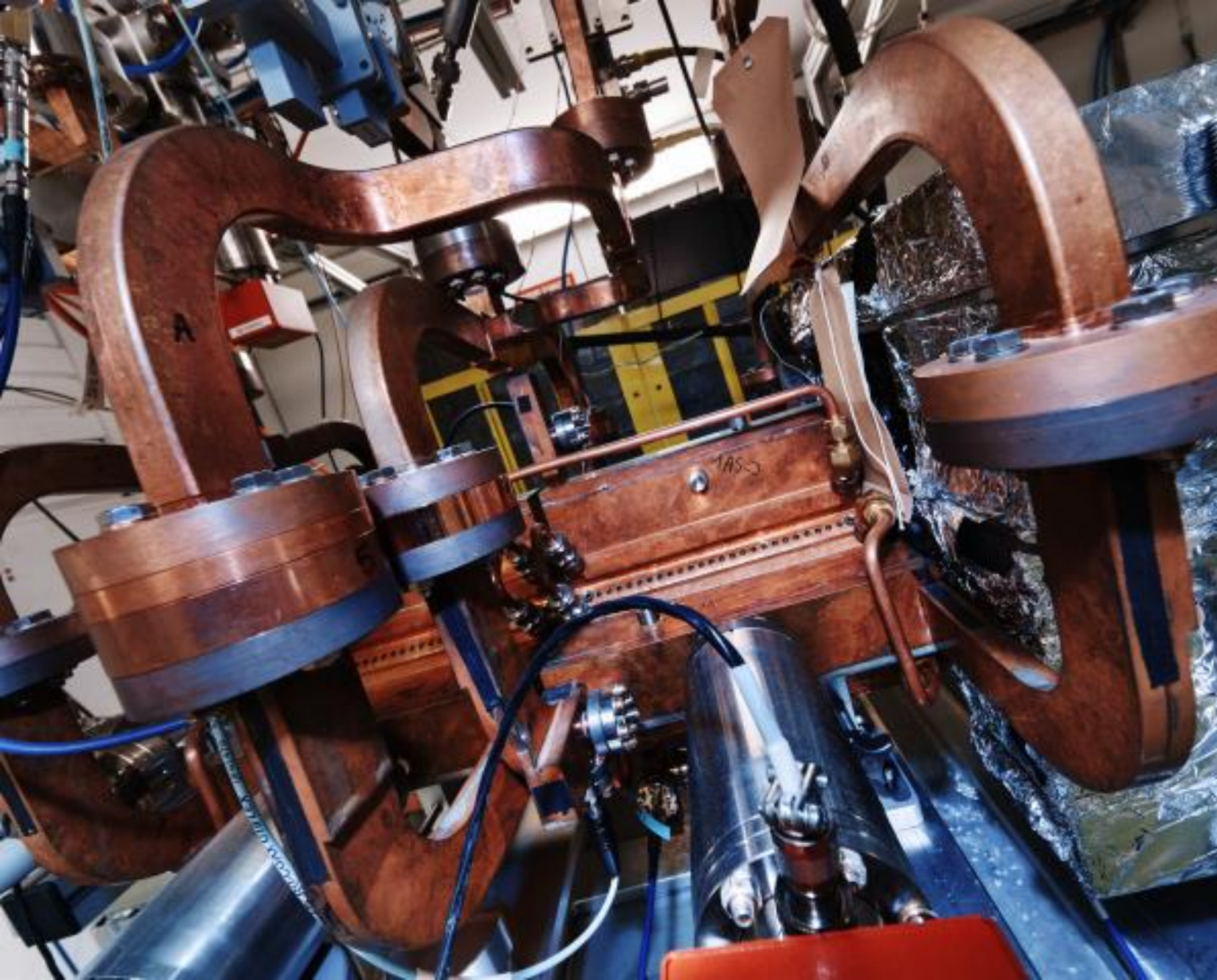
Developed by members of the LHCb collaboration to help combat COVID-19.

## CARA

CERN-made software modelling the concentration of viruses in enclosed spaces







**CERN and the Lausanne University Hospital (CHUV) collaborate on a pioneering new cancer radiotherapy facility that will be based on the CLIC (Compact Linear Collider) accelerator technology.**



*We are particularly proud of our collaboration with CERN and strongly believe in the advancement of FLASH radiotherapy into a clinical setting.*

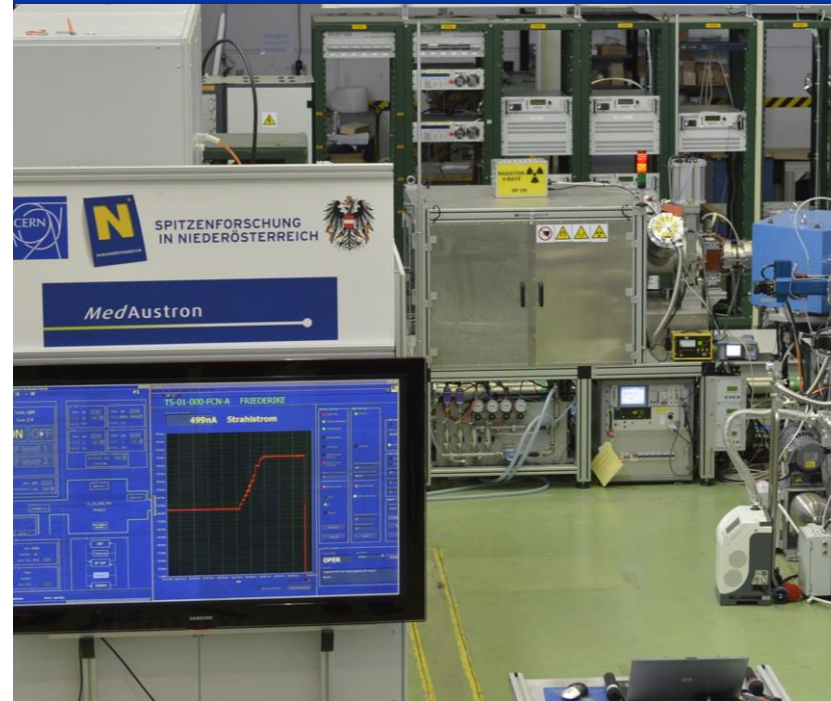
*-Philippe Eckert, CHUV Director General*

# More co-innovation of novel heavy-ion therapy technologies



Supporting **CNAO**-the National Center for Oncological Hadrontherapy, in the development of a cancer therapy synchrotron

Collaboration with **EBG-MedAustron** on their beam extraction and magnet measurement techniques for cancer treatment



Collaboration with **CIEMAT** -Centre for Energy, Environment and Technology, initiated to construct an injector for an ion therapy linear accelerator.

# KT Success Stories

## GaToroid

Using CERN magnet technology in innovate cancer treatment



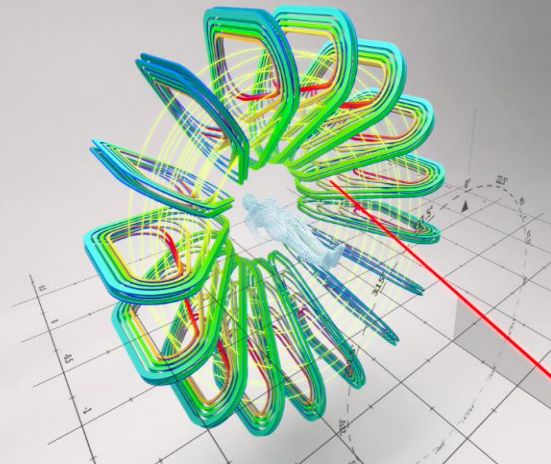
## Sanofi Pasteur

Improving vaccine production with novel machine learning techniques



## CERN-MEDICIS

New tools for precision medicine



## Terapet SA

Enabling the monitoring of the delivered proton dose inside the patients during cancer treatment: in-vivo, non-invasively, in 3D and real-time

## MARS Bioimaging

- First 3D colour X-ray based on CERN technology, able to monitor bone healing following a fracture.
- MARS Bioimaging released new 3D colour X-ray images generated with the innovative MARS compact scanner, based on the Medipix3 technology developed at CERN.

**BAQ** A BETTER  
AIR QUALITY  
COMPANY



CERN  
spin-off



## BAQ

- CERN signed a license agreement on the RaDoM technology with the spin-off company BAQ: a start-up to tackle Radon gas
- RaDoM (Radon Dose Monitor) an innovative radon-monitoring prototype developed at CERN to drive analysis and mitigation.

## OHL 2.0

- The latest version of the CERN Open Hardware Licence was updated in March 2020
- On 15 January 2021, OHL 2.0 got Open Source Initiative (OSI) Certified

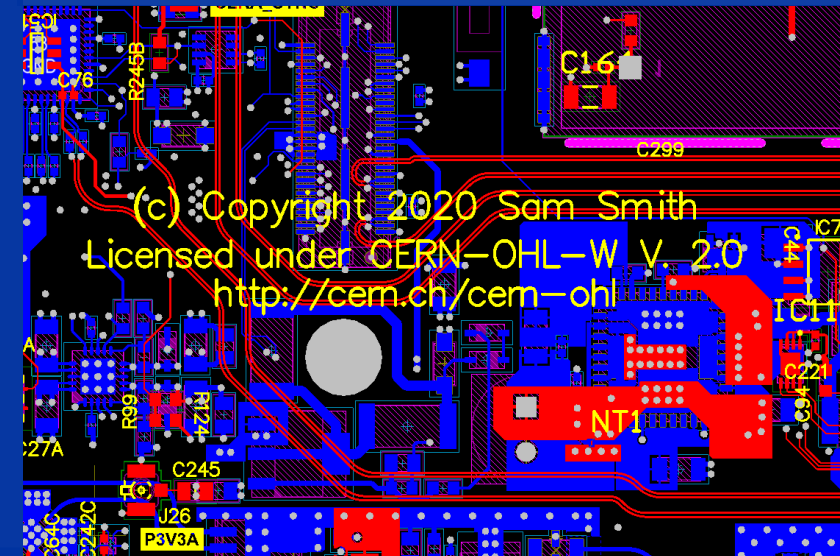
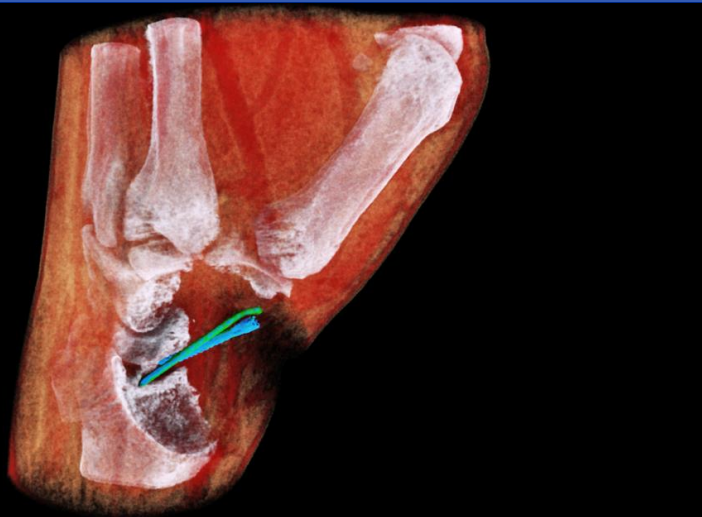




Image: ENERCON

## ENERCON

How competences and technologies from HEP can support innovations in wind energy production

## InsightART

Measuring the DNA of your art



## Orvium

A CERN spinoff that aims to revolutionise academic paper review and publishing.

## BioDynaMo with Statistics Netherlands

The CERN-codeveloped technology in collaboration with Statistics Netherlands will perform large-scale data modelling on socio-economic parameters



# Aerospace Applications



## Lumina

An optical fibre-based dosimetry experiment on board the International Space Station



## CELESTA

First full satellite tested at CHARM.

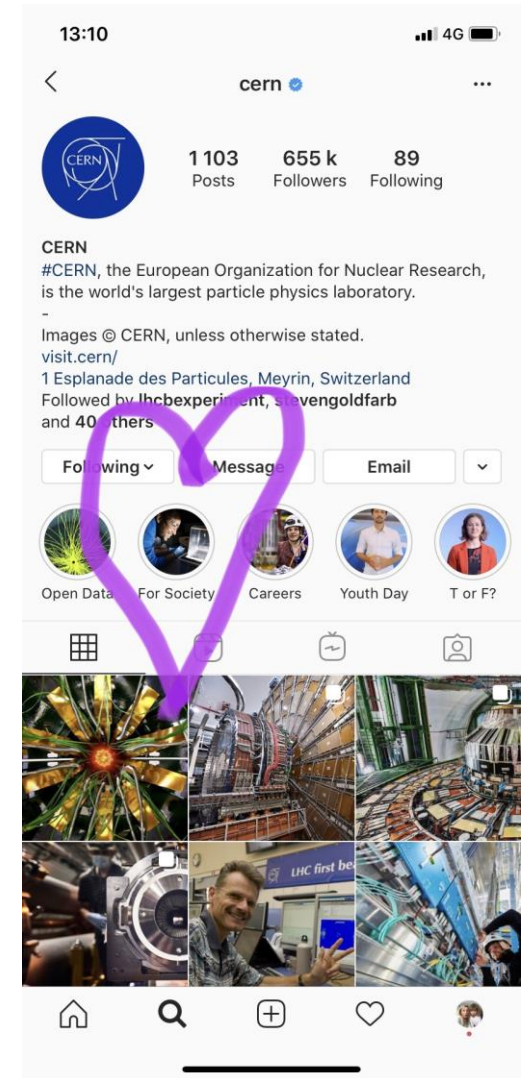
# How can IPPOG and CERN KT collaborate?



IMPACT

# Where can we find KT stories?

- KT updates (has information about all the stories and developments)
- KT news <https://kt.cern/news>
- KT Newsletter <https://kt.cern/newsletter>
- KT Reports <https://kt.cern/annual-report>
- Social media #CERNKT <https://www.instagram.com/cern/?hl=en>
- “For Society” folder on Instagram was created in October 2020





# Social Media

**CERN**  
188,379 followers  
1mo · 🌐

Today is **#CivilAviationDay!**  
Did you know that **#CERNKT** digital tools are **#AcceleratingInnovation** in aviation safety?  
ROOT can be used to collect and manage data to assist the pilots in improving their situational awareness during the flight.

Find out more: [https://lnkd.in/d\\_TQcvV](https://lnkd.in/d_TQcvV)

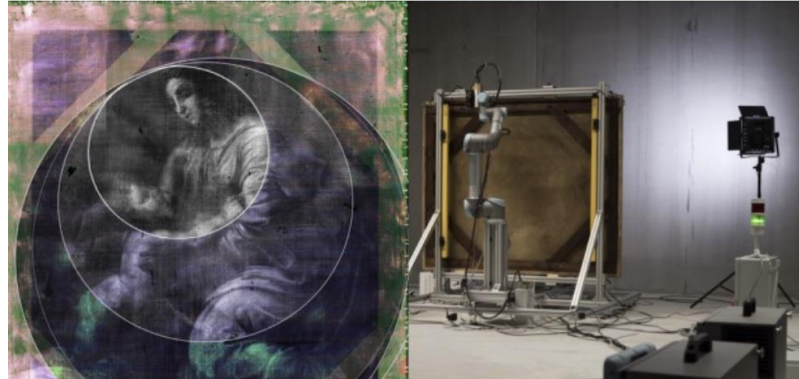
● Did you know that physics tools developed at CERN are accelerating innovation in aviation safety?  
#CERNKT #AcceleratingInnovation



kt • cern

**CERN** ✓  
Published by Loic Bomcern · 16 November 2020 · 🌐

The ArtTech Foundation gave its prize to Czech start-up InsightART and its innovative scanner using **#CERNKT** technology, Timepix. Capable of taking high-res X-ray images, this machine is **#AcceleratingInnovation** in artwork authentication.



**CERN** ✓ @CERN · Apr 26, 2020

Today, it's **#WorldIPDay**. This year connecting innovation, and the Intellectual Property (IP) rights that support it, and the efforts to create a green future. Technologies developed at CERN advance the pursuit of building a better planet 🌍

**#CERNKT** → [kt.cern/article/techno...](https://kt.cern/article/techno...)

● SUSTAINABLE IRRIGATION SYSTEM USES OPTICAL FIBRE HUMIDITY SENSORS ORIGINALLY DEVELOPED AT CERN #CERNKT #WorldIPDay



kt • cern

World Intellectual Property Organization (WIPO)



**CERN**  
170,492 followers  
5d · Edited · 🌐

CERN and the CHUV | Lausanne university hospital are collaborating to develop the conceptual design of an innovative radiotherapy facility for cancer treatment. ...see more



CERN and Lausanne University Hospital collaborate on a pioneering new cancer radiotherapy facility

# How can we collaborate?

CERN KT posts to IPOGG page

Sign up to CERN KT newsletter & invite others:

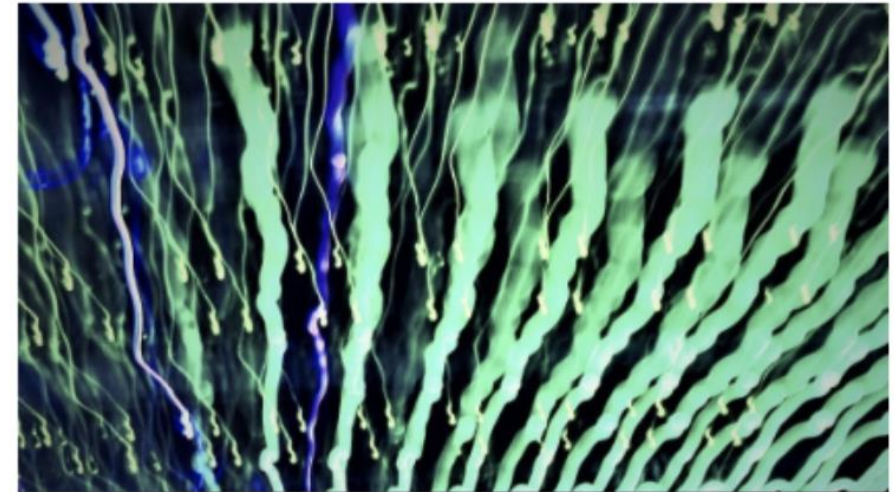
<http://kt.cern/newsletter>

- Articles
- Deadlines
- Events
- KT in the news
- Partners milestones

CERN Knowledge Transfer  
October 2021 Newsletter

Find out more at [kt.cern](http://kt.cern)

## News Highlights



### CERN Quantum Technology Initiative unveils strategic roadmap shaping CERN's role in next quantum revolution

The CERN Quantum Technology Initiative (QTI) reached its next milestone in October, with the unveiling of a first roadmap defining its medium and long-term quantum research programme.

Read more about the CERN Quantum Technology Initiative [here](#).

Follow CERN QTI on [Twitter](#) and [LinkedIn](#).

# How can we collaborate?

## KT Funds



Accelerate your **Funding**

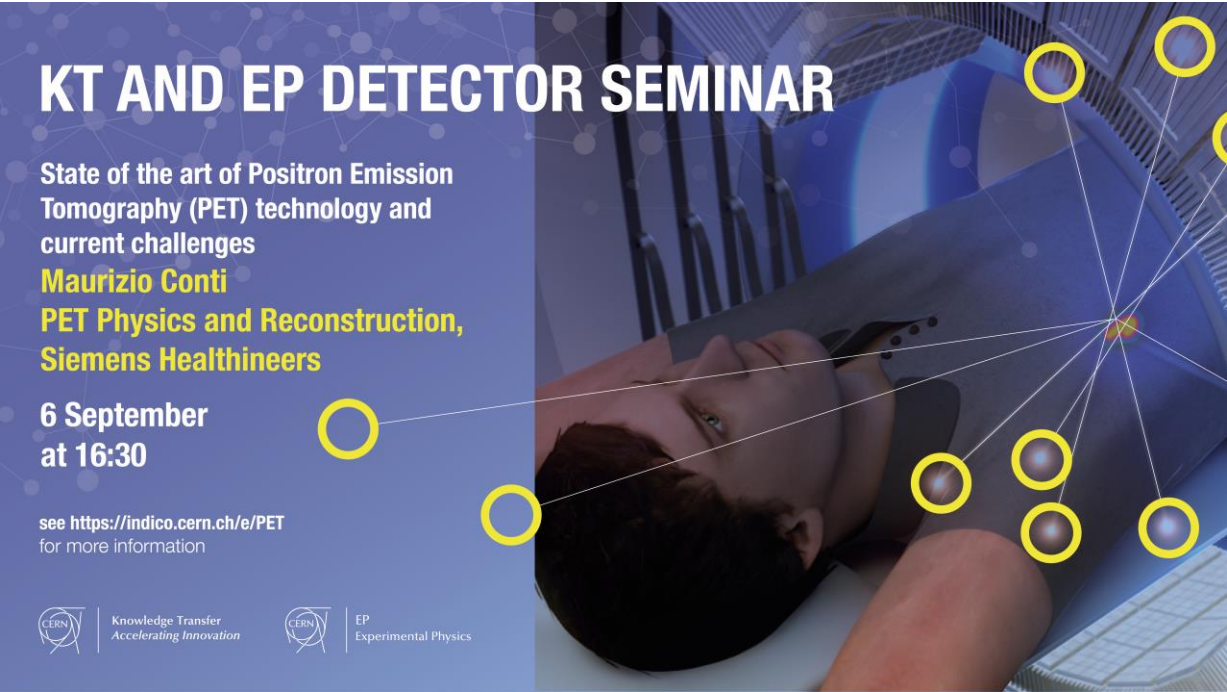
The Knowledge Transfer Group can help you find resources to develop projects with a positive impact on society

—

kt.cern  
#CERNPeopleDoKT

 Knowledge Transfer  
Accelerating Innovation

## KT Seminars




### KT AND EP DETECTOR SEMINAR


State of the art of Positron Emission Tomography (PET) technology and current challenges

**Maurizio Conti**  
PET Physics and Reconstruction,  
Siemens Healthineers

6 September  
at 16:30

see <https://indico.cern.ch/e/PET>  
for more information

 Knowledge Transfer  
Accelerating Innovation

 EP  
Experimental Physics

# WHAT'S NEXT?



[Com.kt@cern.ch](mailto:Com.kt@cern.ch)  
[Kt.cern](http://Kt.cern)