



Knowledge Transfer @ CERN

amy.bilton@cern.ch

Knowledge Transfer Officer

IPT Department

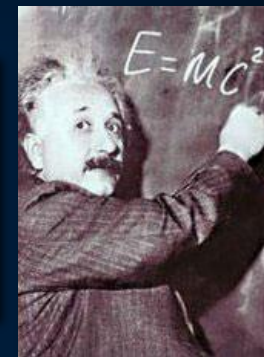
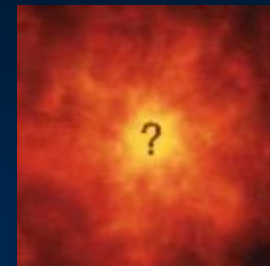




The Mission of CERN

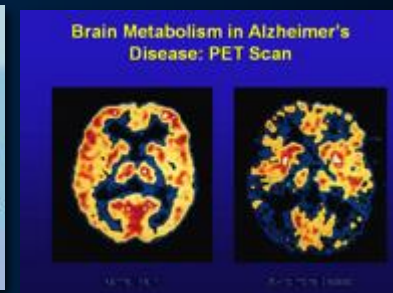
- ❑ **Push back** the frontiers of knowledge

E.g. the secrets of the Big Bang ...what was the matter like within the first moments of the Universe's existence?



- ❑ **Develop** new technologies for accelerators and detectors

Information technology - the Web and the GRID
Medicine - diagnosis and therapy

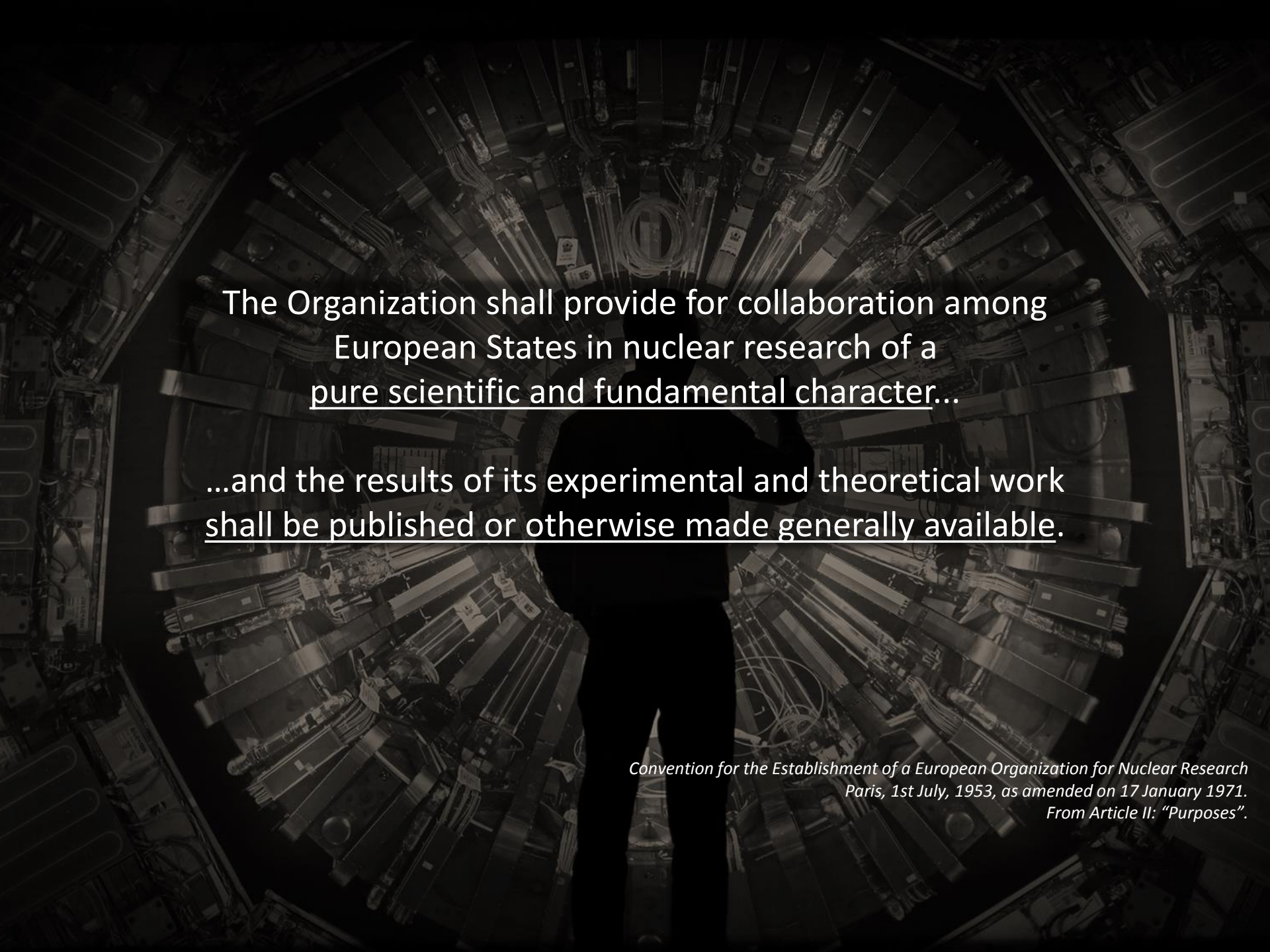


- ❑ **Train** scientists and engineers of tomorrow



- ❑ **Unite** people from different countries and cultures





The Organization shall provide for collaboration among
European States in nuclear research of a
pure scientific and fundamental character...

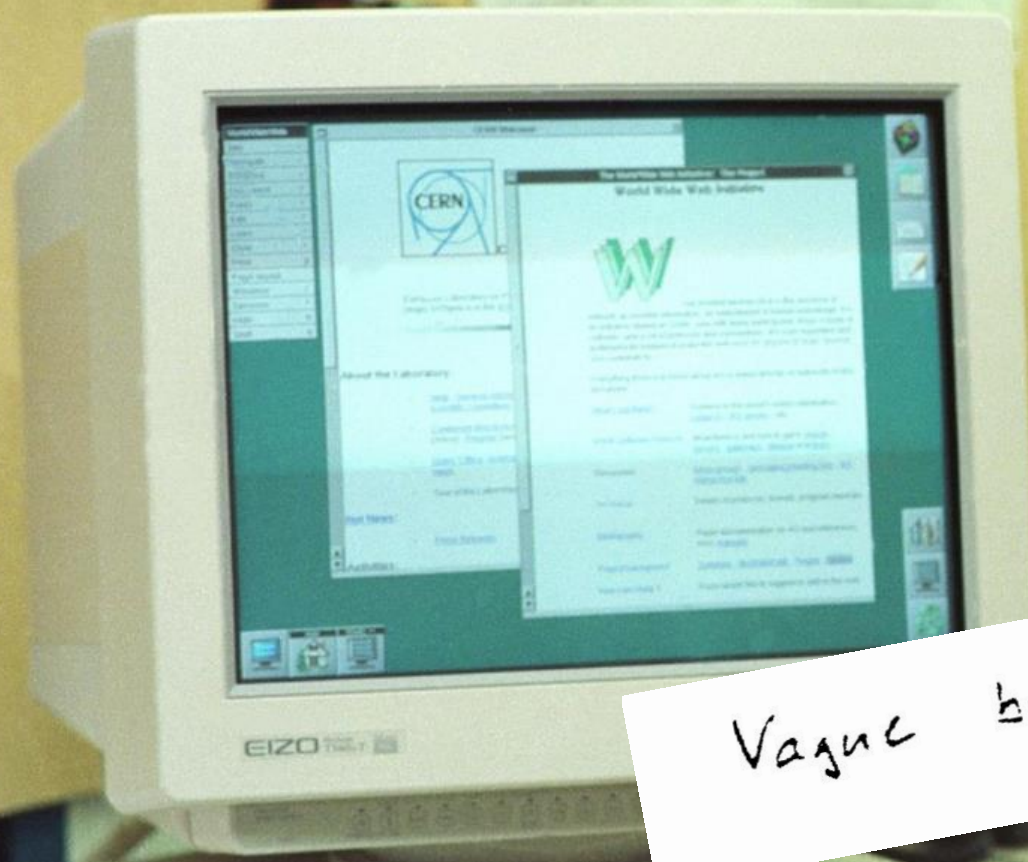
...and the results of its experimental and theoretical work
shall be published or otherwise made generally available.

*Convention for the Establishment of a European Organization for Nuclear Research
Paris, 1st July, 1953, as amended on 17 January 1971.
From Article II: "Purposes".*



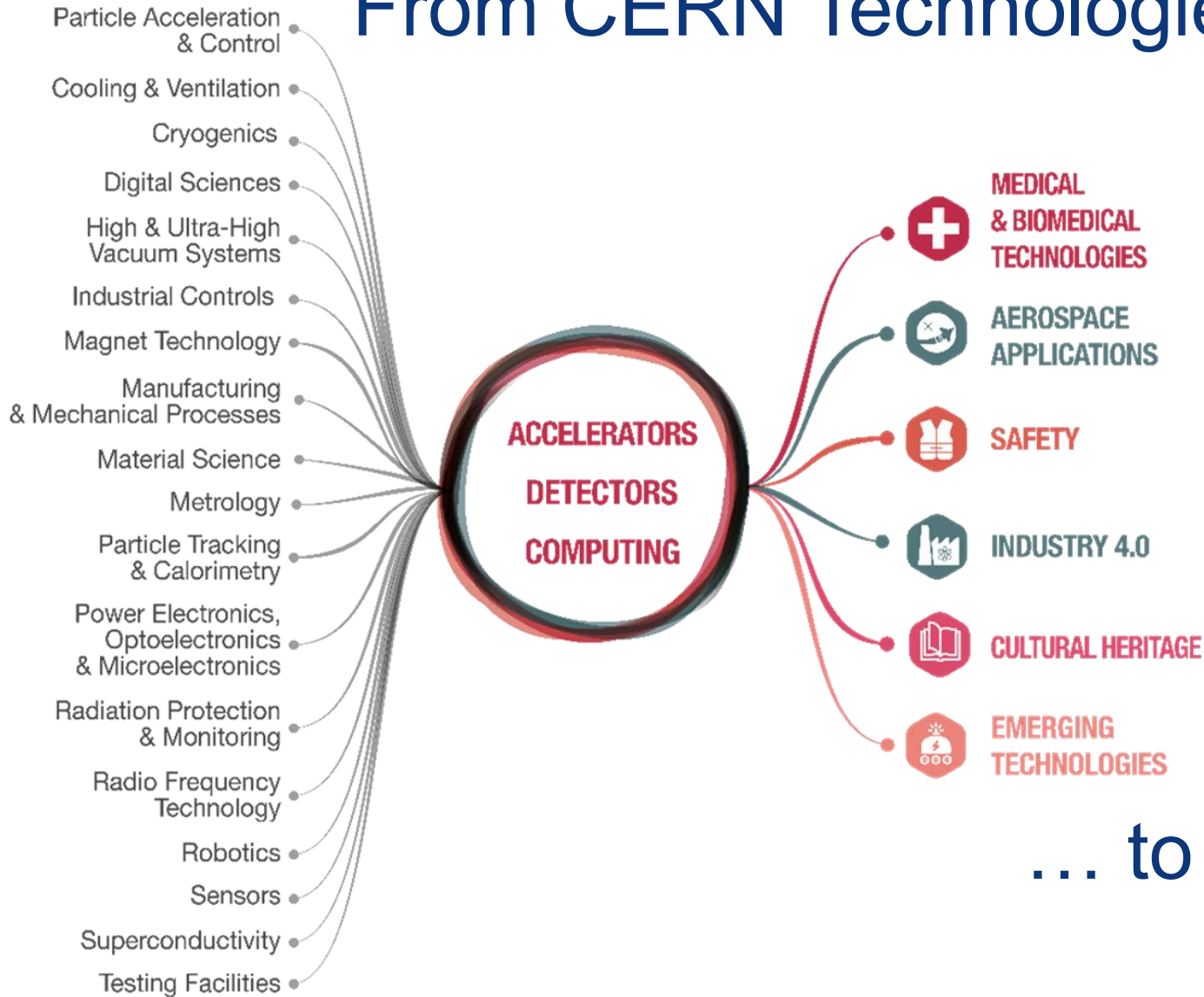
The **mission** of the CERN
Knowledge Transfer group is to
maximise the global positive
impact of CERN on **society**

The World Wide Web - born at CERN



Vague but exciting ...

From CERN Technologies ...



... to Society





Machine learning for improved
vaccine production
CERN - Sanofi



le dauphiné libéré

1,00€ - 1,50 FS | JEUDI 30 NOVEMBRE 2017 | G 01

BELLEGARDE & PAYS DE GEX

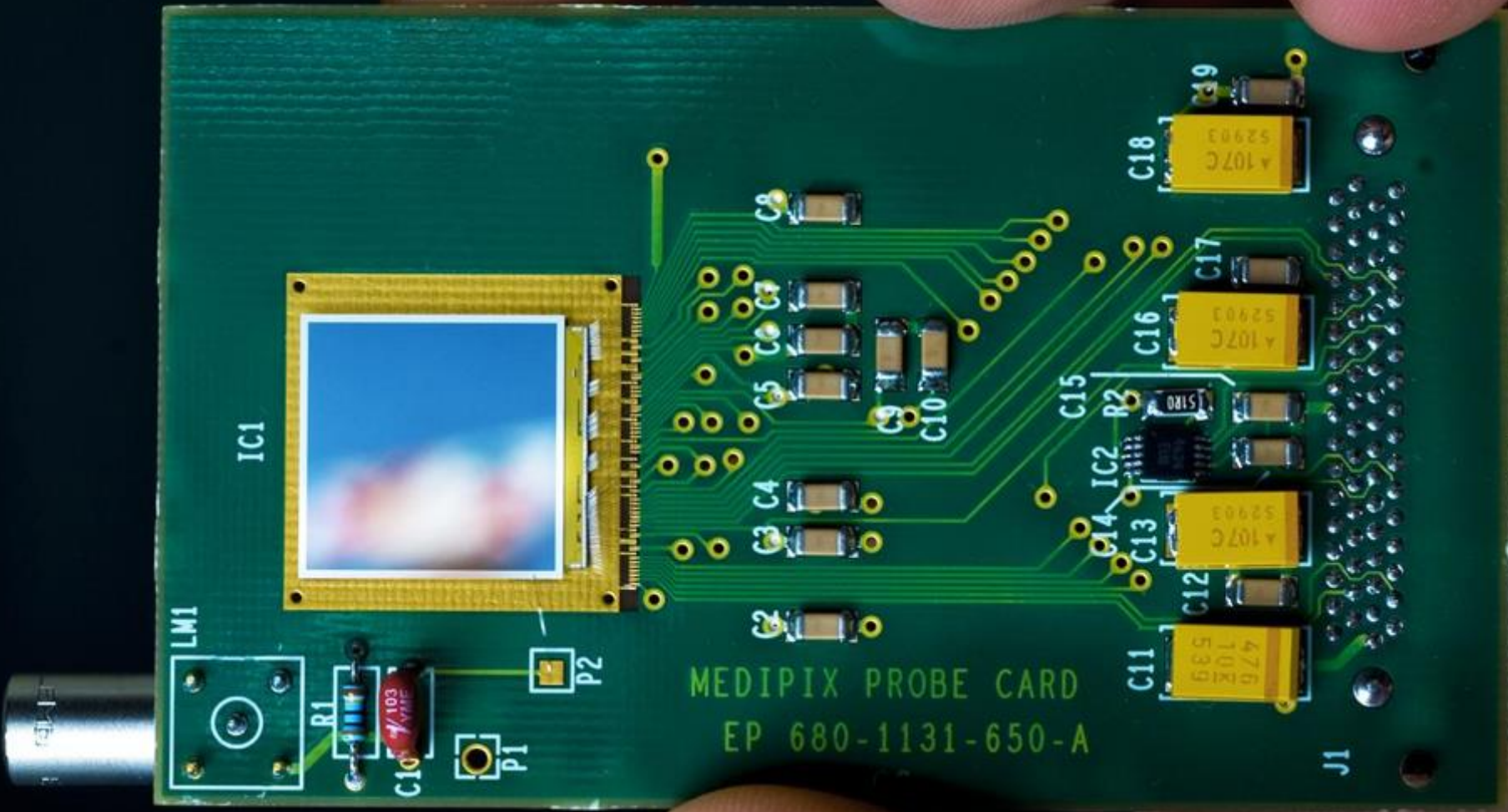
GENEVOIS LE SAVOIR DES PHYSICIENS AU SERVICE DE LA MÉDECINE DE DEMAIN

La lutte anti-cancer se prépare au Cern

CERN-MEDICIS
First medical isotopes produced

Mini particle accelerator for cultural heritage – PIXE-RFQ





MEDIPIX PROBE CARD
EP 680-1131-650-A

IC1

LM1

R1

C10

P1

P2

C2

C3

C4

C5

C6

C7

C8

C9

C10

C11

C12

C13

C14

C15

C16

C17

C18

IC2

IC3

J1

Spectral imaging - Medipix chip

The New York Times

TRILOBITES

3-D Color X-Rays Could Help Spot Deadly Disease Without Surgery

A new medical scanner, derived from technology used by particle physics researchers at CERN, “is like the upgrade from black-and-white film to color,” one of its developers said.

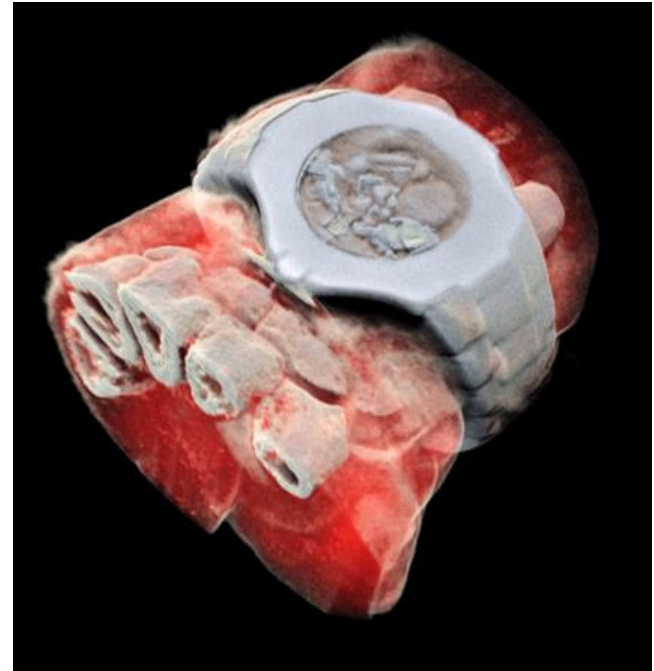


Image: A 3D image of a wrist with a watch showing part of the finger bones in white and soft tissue in red. (Credit: MARS Bioimaging Ltd.)

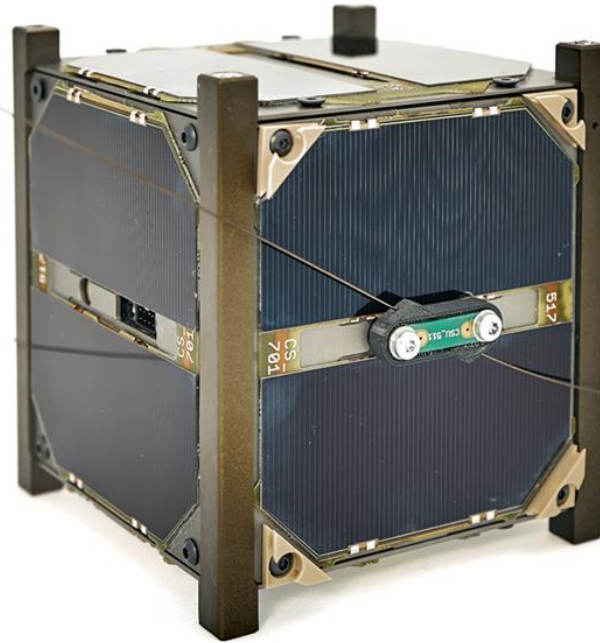


X-ray eyes for
cultural heritage –
Medipix chip

Image: Slotting a painting into the X-ray scanner, which will analyse it at a high resolution.
(Credit: InsightArt s.r.o.)

From the LHC to
space - Timepix chip





First full satellite CELESTA
tested at CHARM

Funding Opportunities for CERN Projects

CERN Knowledge Transfer Fund
CERN Medical Applications Budget

Collaborations and Networks

Knowledge transfer networks
Strengthening links with Member States (KT Forum)
Relations with International Organisations
Knowledge transfer in EC co-funded projects

Entrepreneurship

Start-ups & Spin-offs
Entrepreneurship Meet-Ups
Business Incubation Centres
Entrepreneurship Programmes

Events

Knowledge Transfer Seminars
Conferences with a significant contribution by the Knowledge Transfer group

Intellectual Property Management

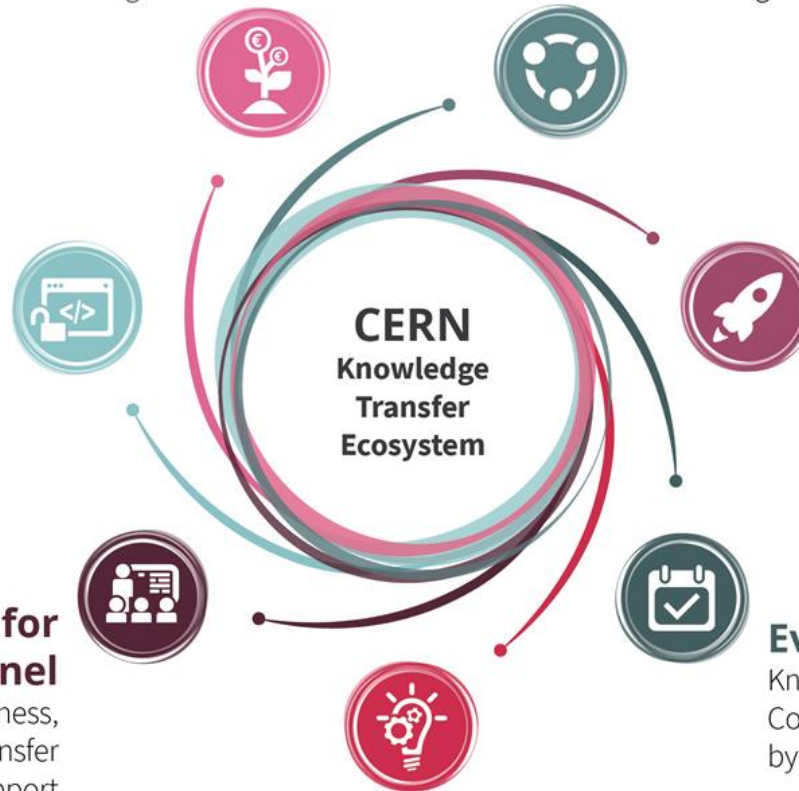
R&D collaborations
Patent portfolio
Licence, service & consultancy agreements

Open Source

Open Source Software
Open Hardware Licence

Support for CERN Personnel

Formal and practical training in business, entrepreneurship & knowledge transfer
Legal, business & intellectual property support



**Start-ups & SMEs
Using CERN
Technology**

Digital Sciences:

Data Intelligence
Colnec Health
Fossil Ion Technology
Rhizom
Safetytn

Digital Sciences:

Digital Libraries
TIND

Digital Sciences:

Simulation Software
FEAC Engineering
Innocryst
Neuschnee

Sensors

Advacam OY
Advacam SRO
Amsterdam Scientific Instruments
Quantum Detectors
MARS Bioimaging
Terabee
X-Ray Imaging Europe
X-Spectrum

**Power Electronics,
Optoelectronics
& Microelectronics**

A20 Innovation Solutions
Camstech
Picotech

**Manufacturing
& Mechanical Processes**

Croft Additive Manufacturing
Ijspeert Innovative Technologies

Robotics

Ross Robotics

Industrial Controls

Securaxis

Radio Frequency Technology

ADAM

**High & Ultra-High
Vacuum Systems**

2D Heat

Cooling & Ventilation

Oxford Nanosystems

**Particle Acceleration
& Control**

Artemis Analytical
D-Beam

MEET CERN AT BSBF2018
IN COPENHAGEN

LESS THAN 2 MONTHS TO GO...
REGISTER NOW

#BSBF2018



KT through *People*



alumni

The High-Energy Network
Le Réseau des hautes énergies

See the full programme and register at <http://cern.ch/go/XJ67>



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

