



Wrocław University of Technology

LINKS TO INDUSTRY IN POLAND

Maciej Chorowski

Wroclaw University of Technology
Wroclaw Technology Park

Symposium on
Physics of Elementary Interactions in the LHC Era,
Warsaw, April 21-22 2008





Content

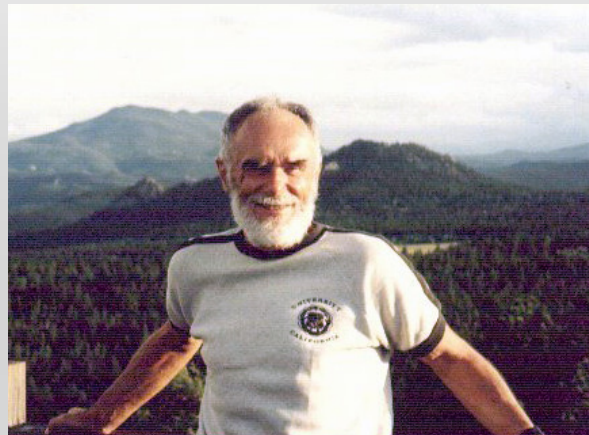
- First contacts between CERN and Polish industry, „pilot” orders
- Industrial exhibitions organised by TECHTRA
 - Poland @ CERN 1995
 - Poland @ CERN 2000
- Consortium of Polish Companies
- Polish supplies (ZEC Service, ZEG, ZPAS)
- Statistical summary of Polish supplies
- Technology transfer to industry
- Present activities
- Conclusions



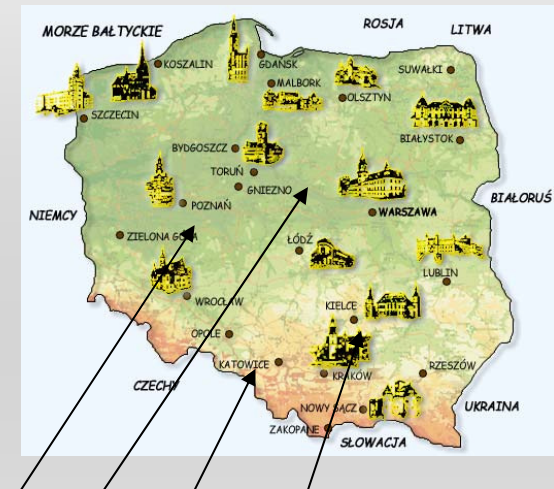
CERN visits to Polish industry - 1991-1992



Gerard Bachy



Tadeusz Dobrowolski



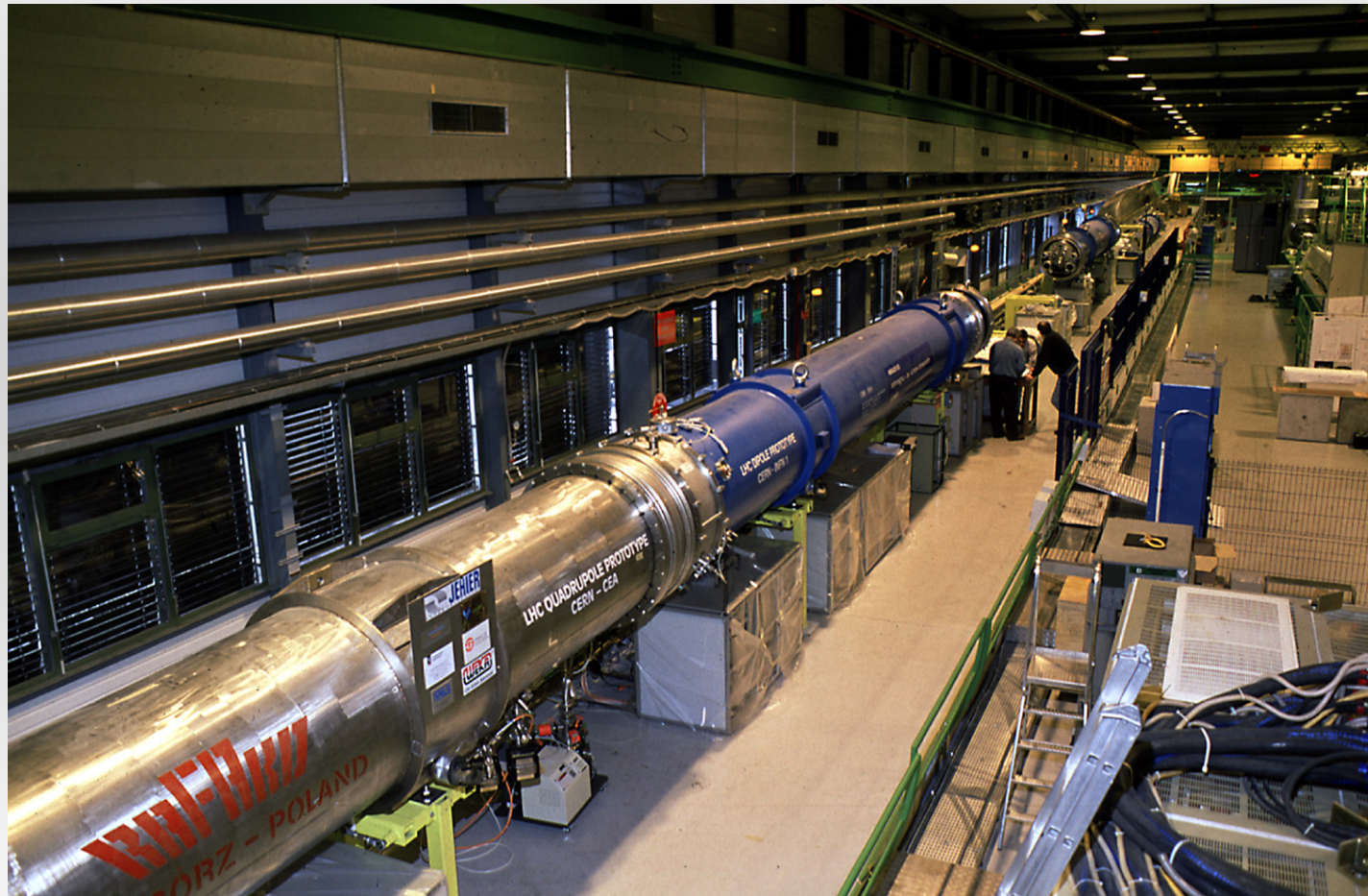
The visits to the Polish companies have been organised by Dr. Tadeusz Dobrowolski from National Atomic Energy Agency

CHEMAR, RAFAKO, METALCHEM, TURBOTECH, ... (the companies have been interested in participation in the construction of nuclear power plant in Zarnowiec)



Wrocław University of Technology

First „pilot” Polish supplies to CERN: RAFAKO - vacuum vessel for STRING 1.



Physics of Elementary Interactions in the LHC Era

21.04.08



Wrocław University of Technology

First „pilot” Polish supplies to CERN:

Kriosystem – He II cryostats for material research



CHEMAR – vacuum box for the LHC dipole test bench



Physics of Elementary Interactions in the LHC Era

21.04.08



Wrocław University of Technology

Poland @ CERN 1995

The exhibition was organised by the team led by Maciej Chorowski, Industrial Liaison Officer, under the auspices of National Atomic Energy Agency, December 1995, over 30 participants,



The exhibition was prepared by a civil-engineering company **KORPALSKI** interested in building for with CERN



Physics of Elementary Interactions in the LHC Era

21.04.08



Wrocław University of Technology

Poland @ CERN 1995

The exhibition was officially opened by Polish Deputy Prime Minister M. Łuczak and was the first event promoting CERN as a market for Polish Industry



Physics of Elementary Interactions in the LHC Era

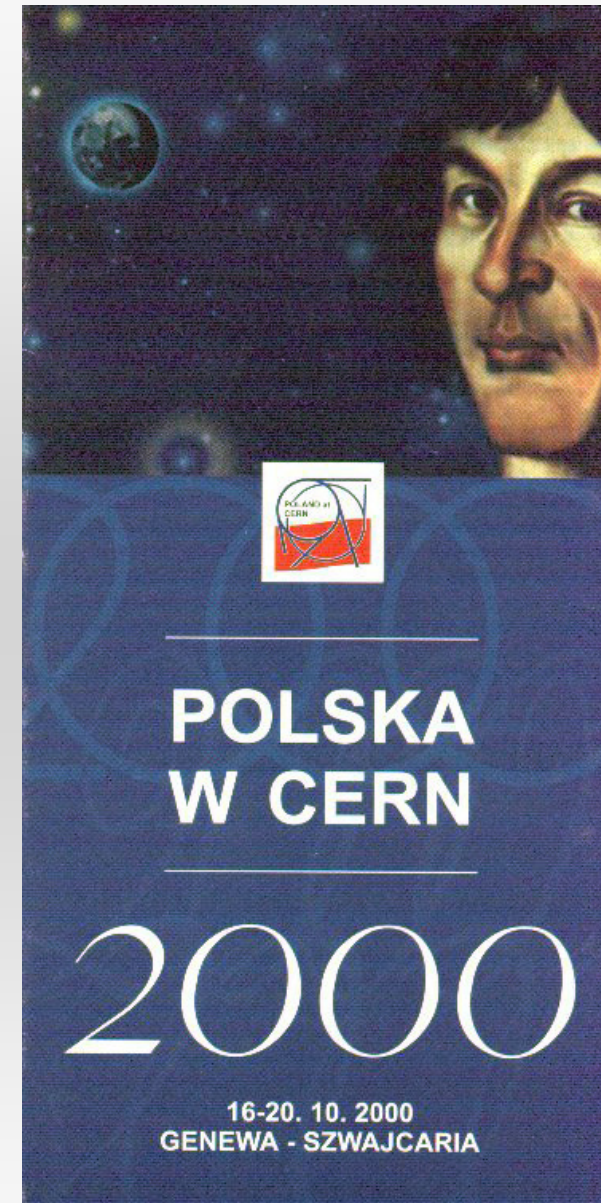
21.04.08



Wrocław University of Technology

Poland @ CERN 2000

The second exhibition Poland @ CERN was organized in October 2000, by TECHTRA Ltd. under the auspices of PAA, over 30 participants



Physics of Elementary Interactions in the LHC Era
21.04.08



Poland @ CERN 2000



The companies have been better prepared to understand the CERN requirements and procedures.

The idea of creating a consortium „Poland @ CERN” has been formulated

Physics of Elementary Interac
21.04.08





- A consortium „Poland @ CERN” gathering 19 companies has been created in 2001, the consortium coordinator became TECHTRA Ltd, board chaired by Maciej Chorowski, Industrial Liaison Officer
- The consortium managed to enter the CERN market with such products and services as:
 - data servers from JTT
 - cooling Installations from ZEC Service
 - CMS gas piping from ZEC Service
 - electronic instrumentation boxes from ZEG Tychy
 - electrical enclosures and components from ZPAS Przygórze and Microomega
 - cabling services from Energomontaż Południe
 - electronics from Fideltronik
 - cars
 - helium from Odolanów
 - miscellaneous



JTT servers at CERN

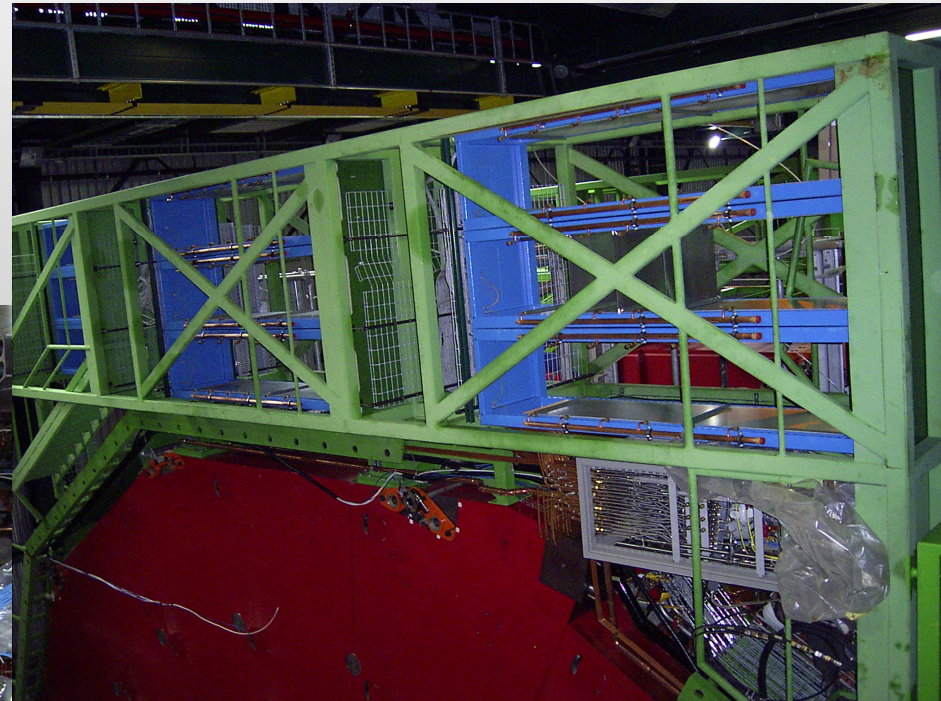


Successful export
stopped by the JTT
insolvency



Examples of ZPAS Przygórze products

Electronic enclosures and components





Examples of products from Poland

ZPAS Przygórze

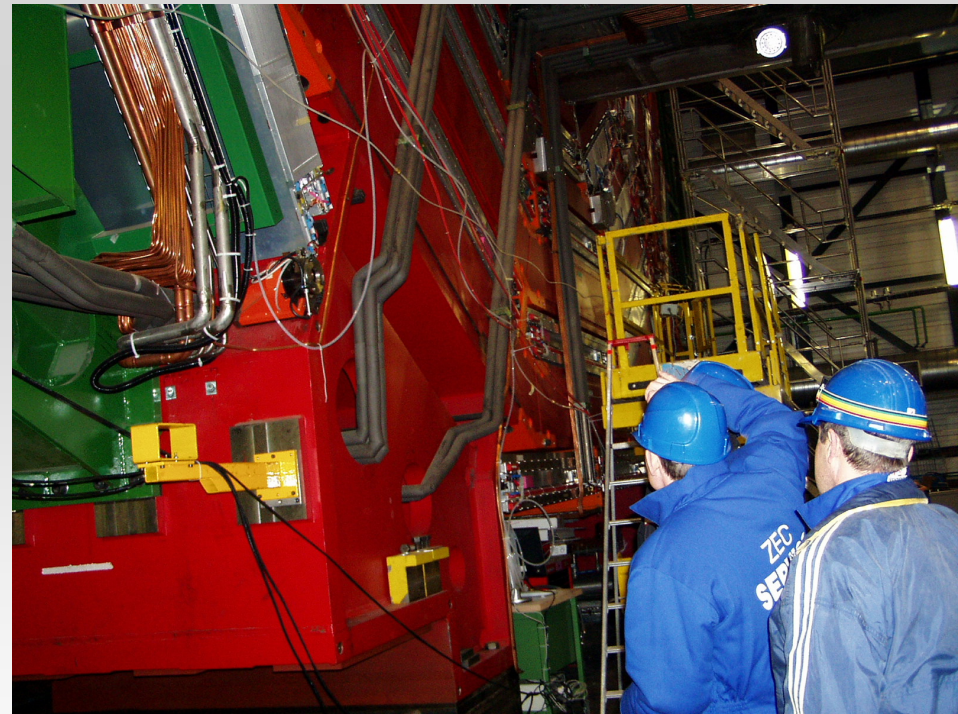
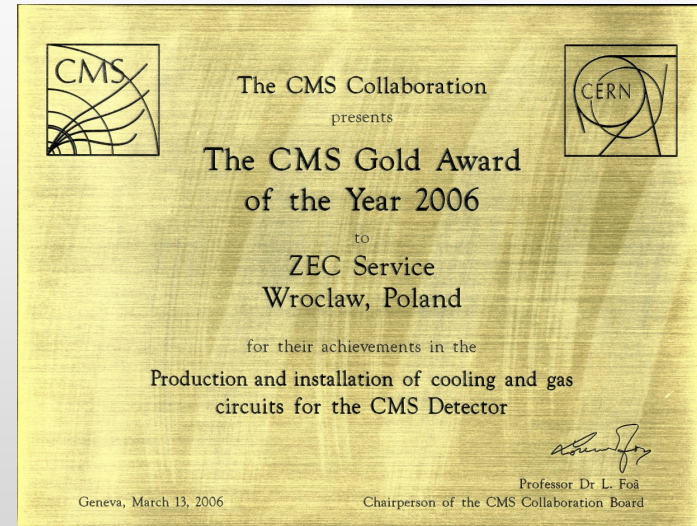
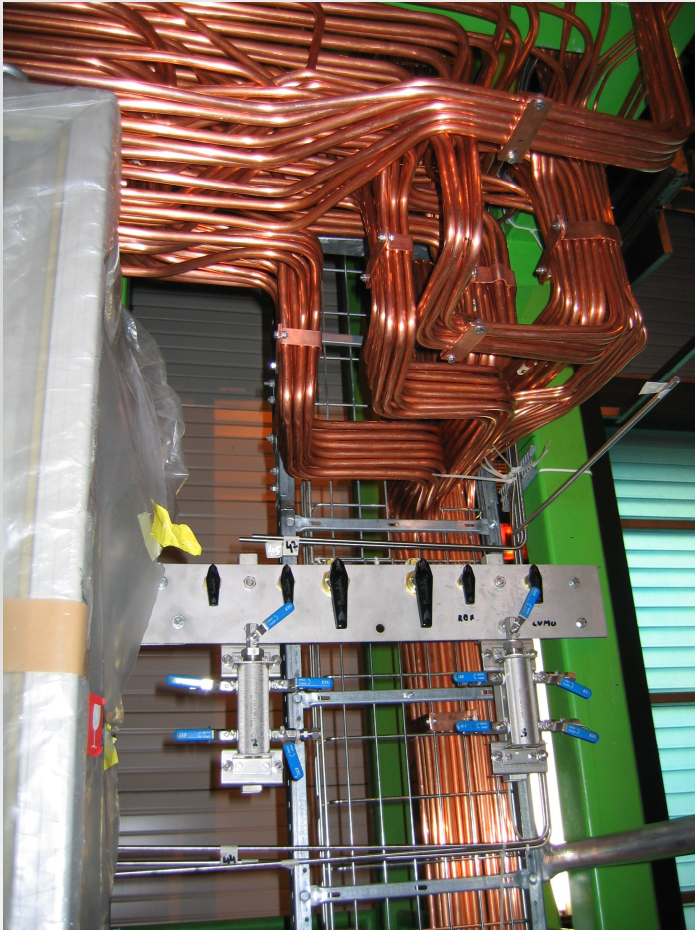
Kriosystem





Wrocław University of Technology

Examples of Zec Service products

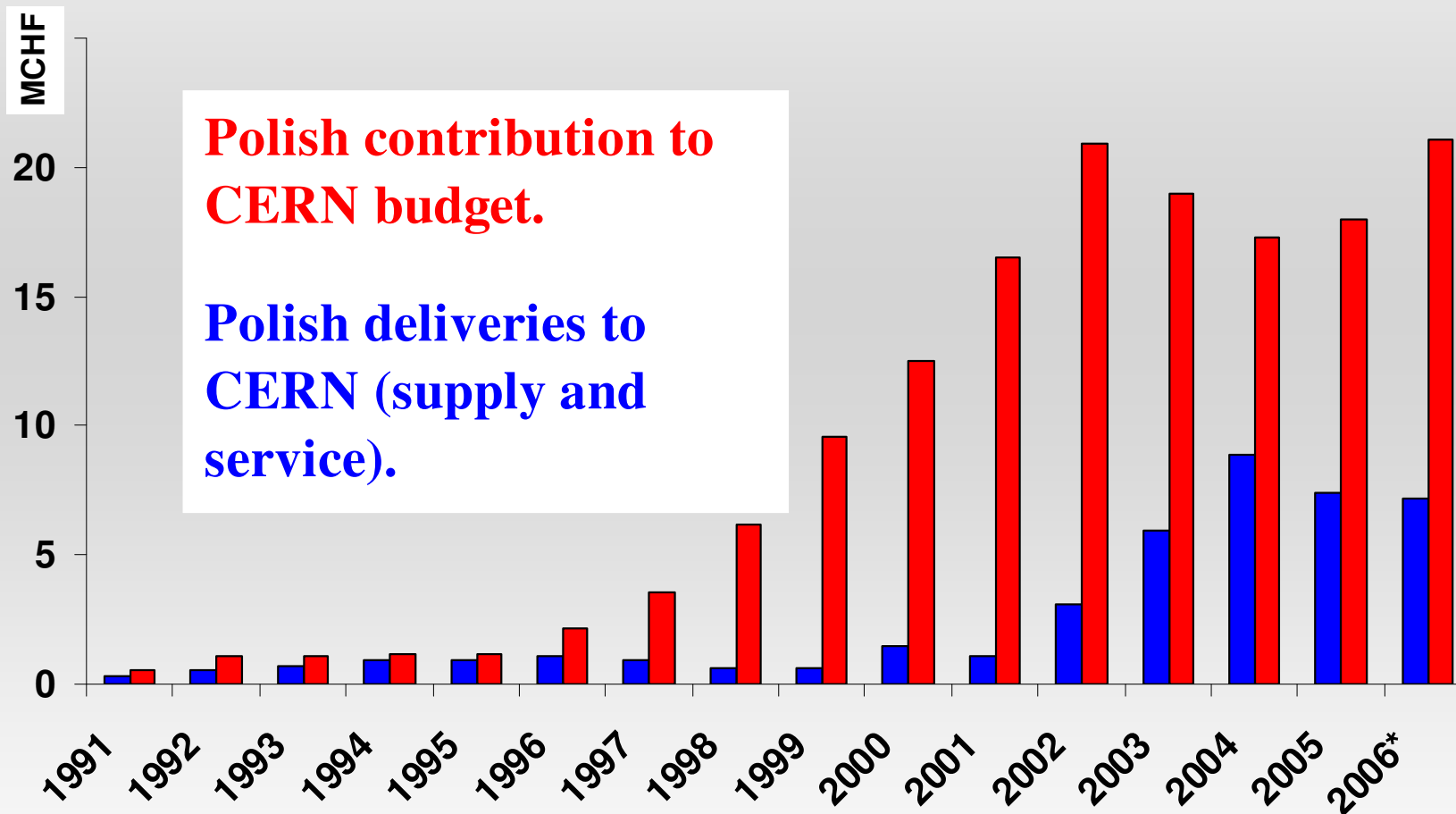


Physics of Elementary Interactions in the LHC Era

21.04.08

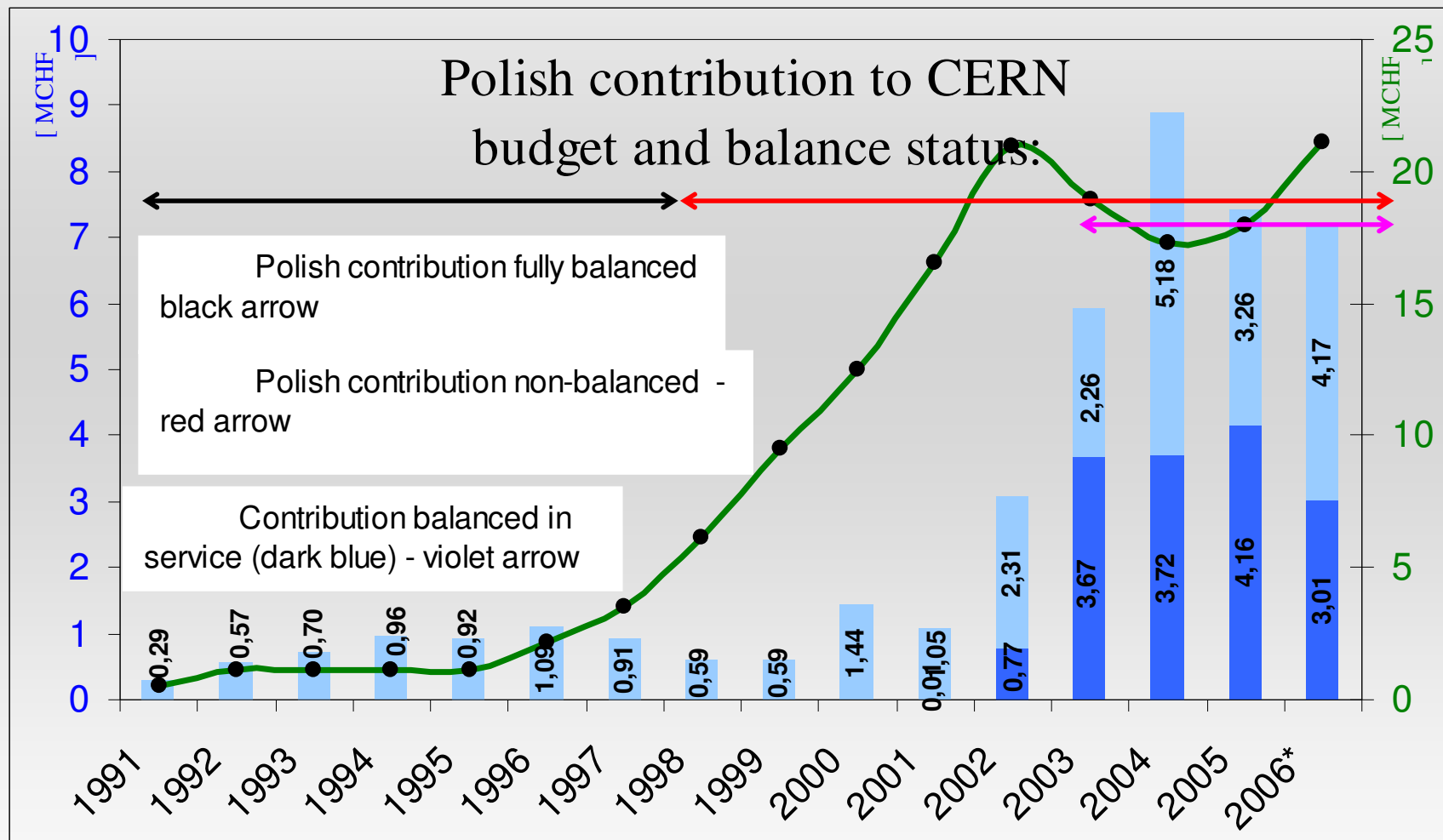


Polish contribution to CERN budget and industrial return



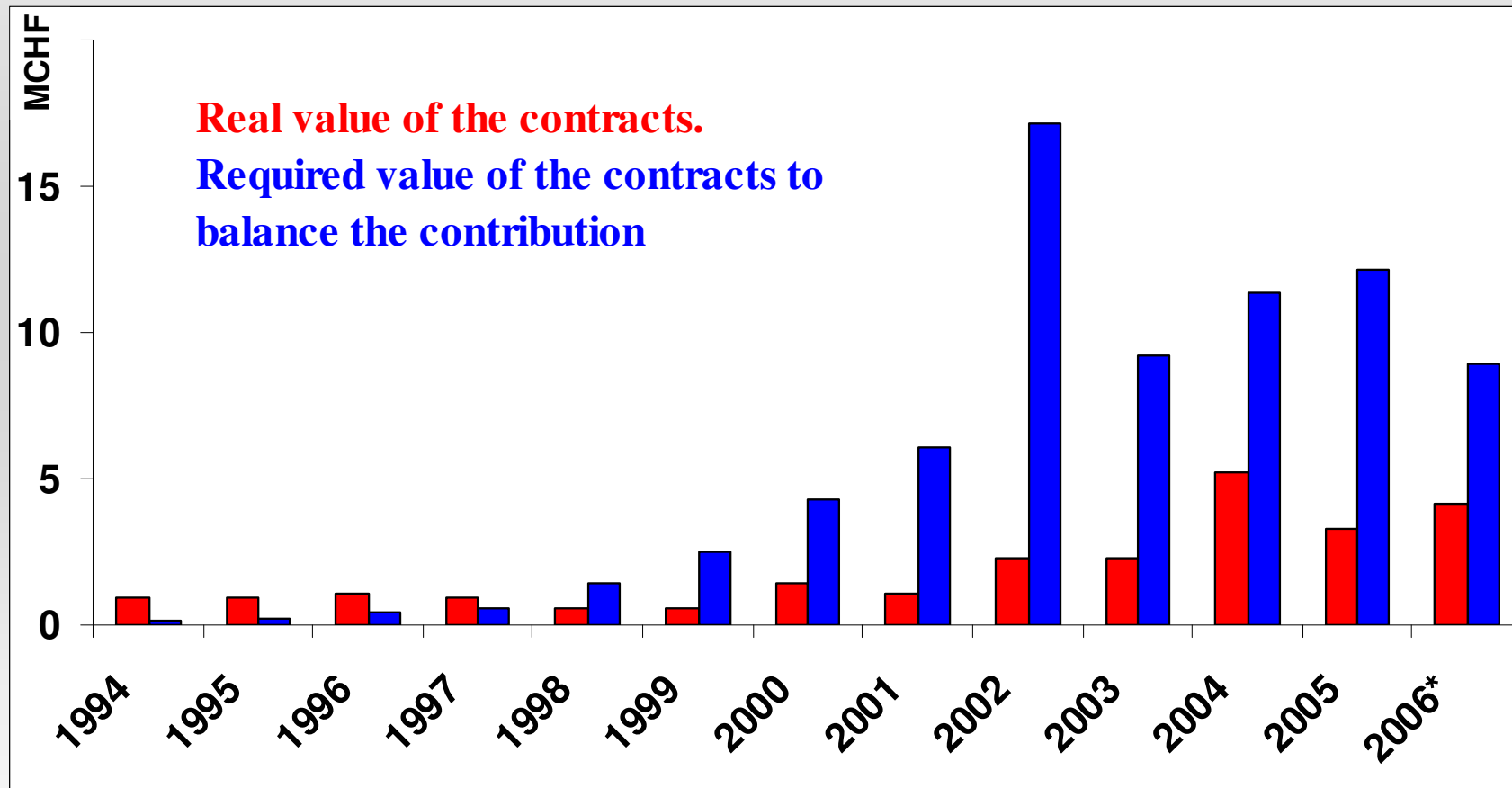


Polish contribution to CERN budget and balance status



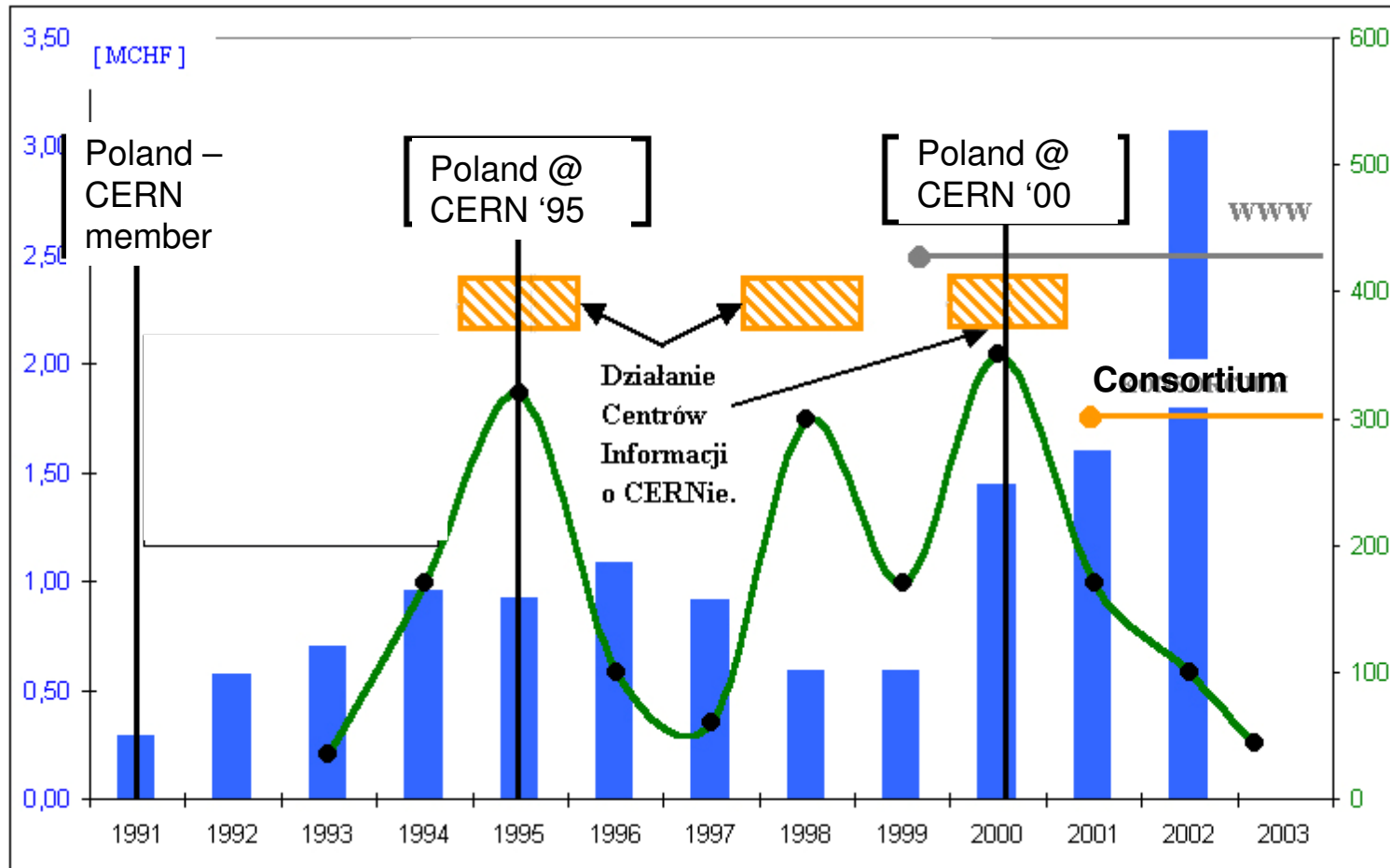


Polish contribution to CERN budget and balance status





Correlation of the industry promoting actions and the industrial return

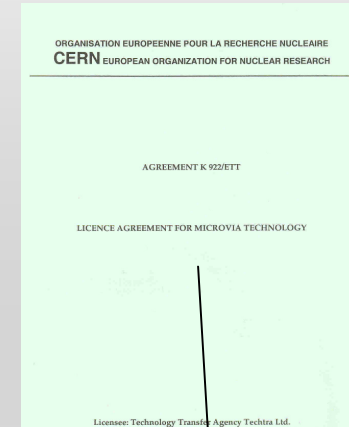
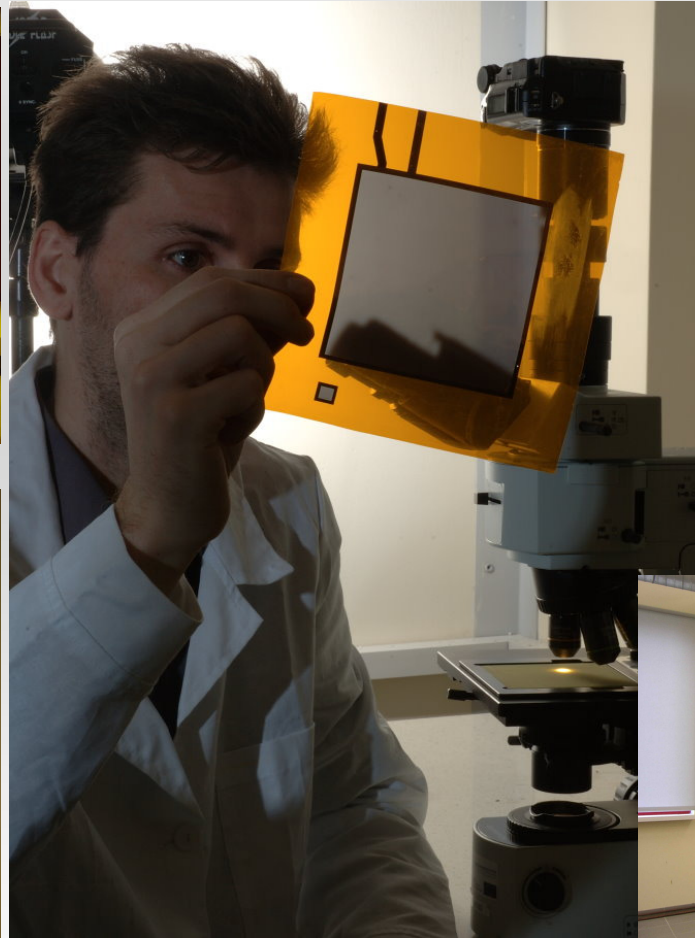
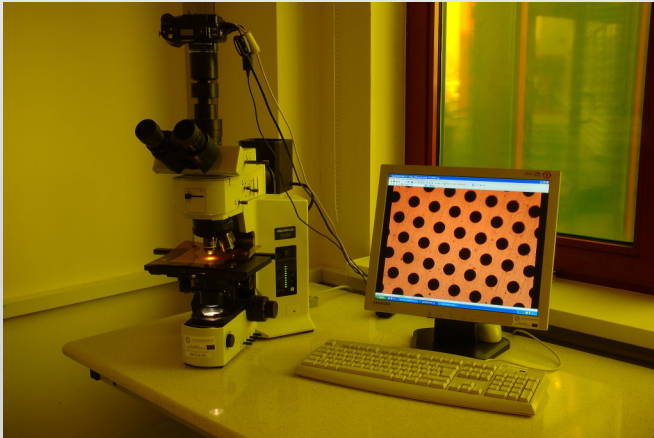




Wrocław University of Technology

Technology transfer - GEM foil

Wroclaw Technology Park is the only place outside CERN where GEMs are now produced

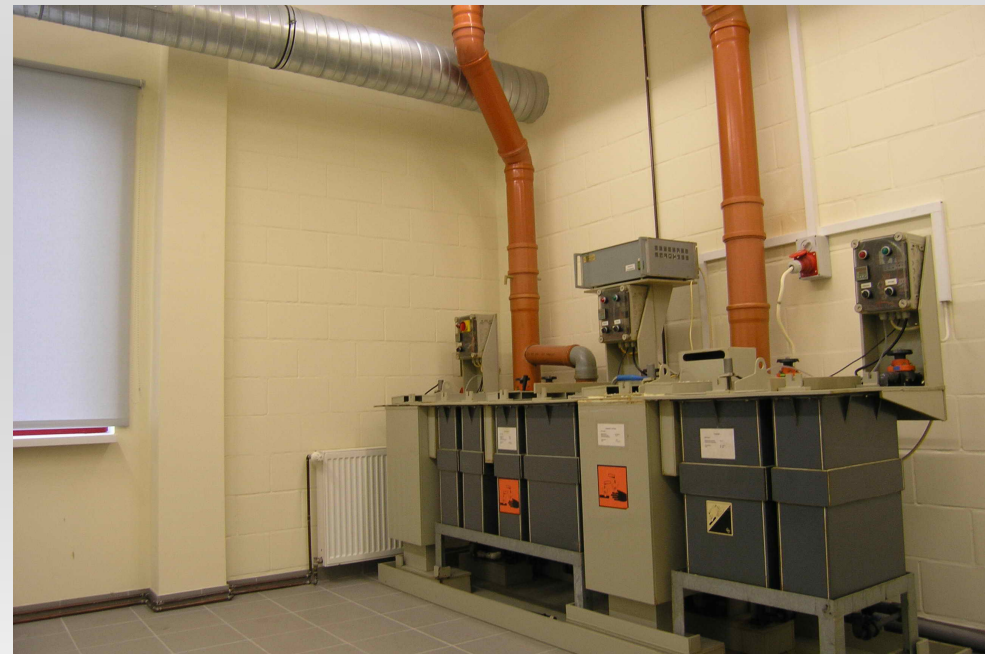


Physics of Elementary Interactions in the LHC Era

21.04.08



Recognition of technology transfer from CERN at SALON INTERNATIONAL DES INVENTIONS





Wrocław University of Technology

Microcosm CERN for Industry 24-25 Sept.07



Joint conference
organized by
CERN TT
&
Wrocław
Technology Park
aimed at
promotion of
CERN in Polish
industry



Wrocław University of Technology

Microcosm - CERN for Industry 24-25 September 2007



Lectures and direct consultations

Over 200 participants, 50 companies

Physics of Elementary Int

21.04



Wrocław University of Technology

Microcosm CERN for Industry



Internal and external discussions





Wrocław University of Technology

Microcosm - CERN for Industry 24-25 Sept. 07



Production facilities of Wrocław technology Park are now used by the companies working for CERN (eg. ZEC Service)

Physics of Elementary Interactions in the LHC Era

21.04.08



Mobile exhibition Microcosm - promoting CERN in Poland



Physics of Elementary Interactions in the LHC Era

21.04.08



Summary

- The first Polish supplies to CERN were possible thanks to personal contact of CERN staff, Polish delegates to FC and the companies representatives
- Polish industry has demonstrated flexibility and ability for self-organization - active Industrial Liaison Office, consortium
- National Atomic Energy Agency has played an important role in promoting of Polish industry at CERN (two exhibitions Poland @CERN, support to the promotion of CERN market)
- Poland was a balanced country in the years 1992 - 1997 thanks to the „division through zero” effect
- Polish industrial contribution to the LHC construction has been at the level of 40% with respect to the balance target
- Wrocław Technology Park has become an efficient CERN Industrial Liaison Office, the companies are assisted while entering the CERN market
- activities focused on: IT, services and maintenance, prototyping