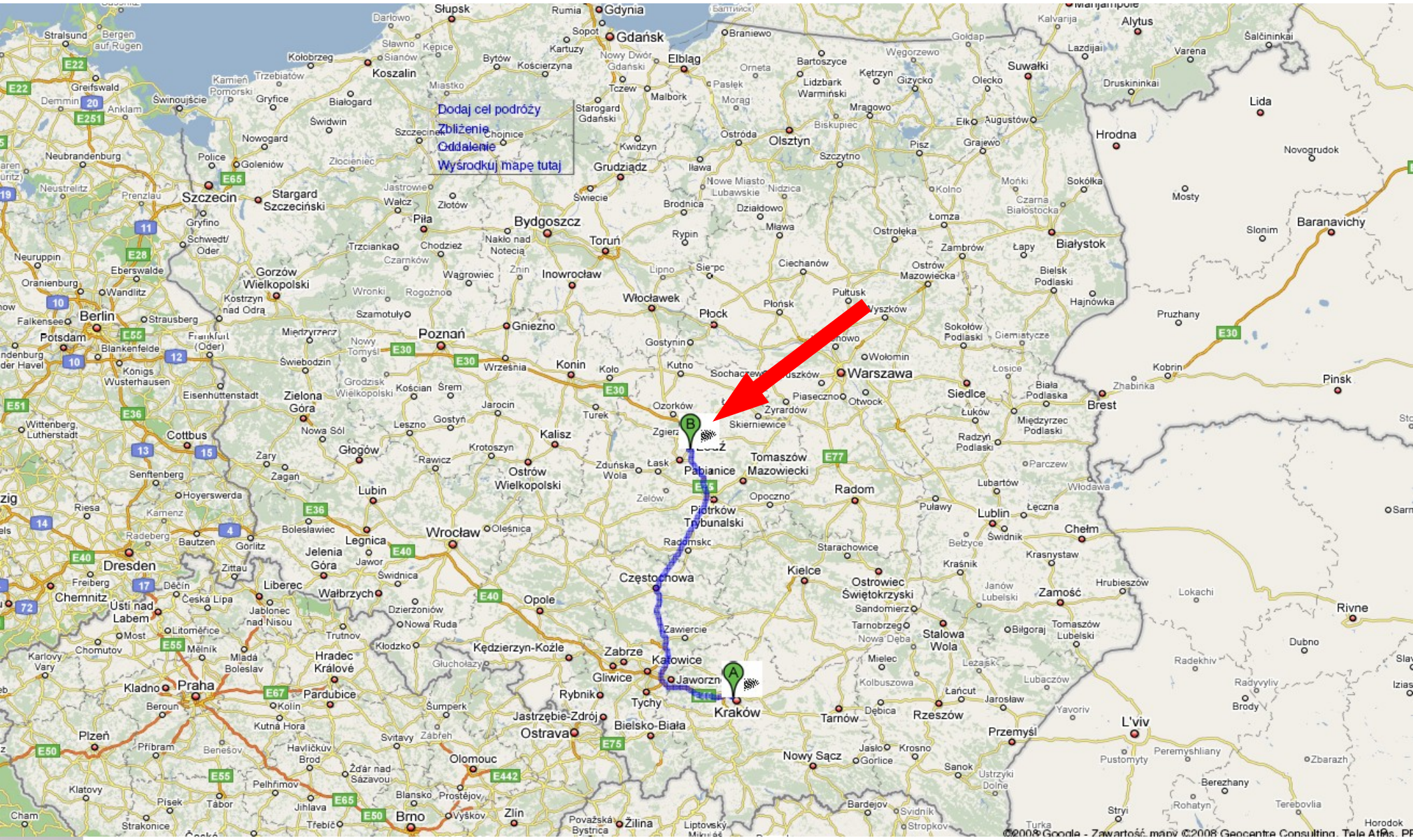
Technical University of Łódź, Department of Microelectronics and Computer Science

D. Makowski

TUL, Department of Microelectronics and Computer Science



Łódź - Lodz

Technical University rector's office (formerly Reinhold Richter's residence, built 1904)

Urban demographics (wikipedia)

	City	Voivodeship	Inhabitants May 20, 2002	Inhabitants December 31, 2004	Inhabitants December 31, 2006
1	Warsaw (Warszawa)	Masovia	1,671,670	1,692,854	1,702,139
2	Łódź	Łódź	789,318	774,004	760,251
3	Kraków	Lesser Poland	758,544	757,430	756,267
4	Wrocław	Lower Silesia	640,367	636,268	634,630
5	Poznań	Greater Poland	578,886	570,778	564,951
6	Gdańsk	Pomerania	461,334	459,072	456,658

Technical University of Lodz

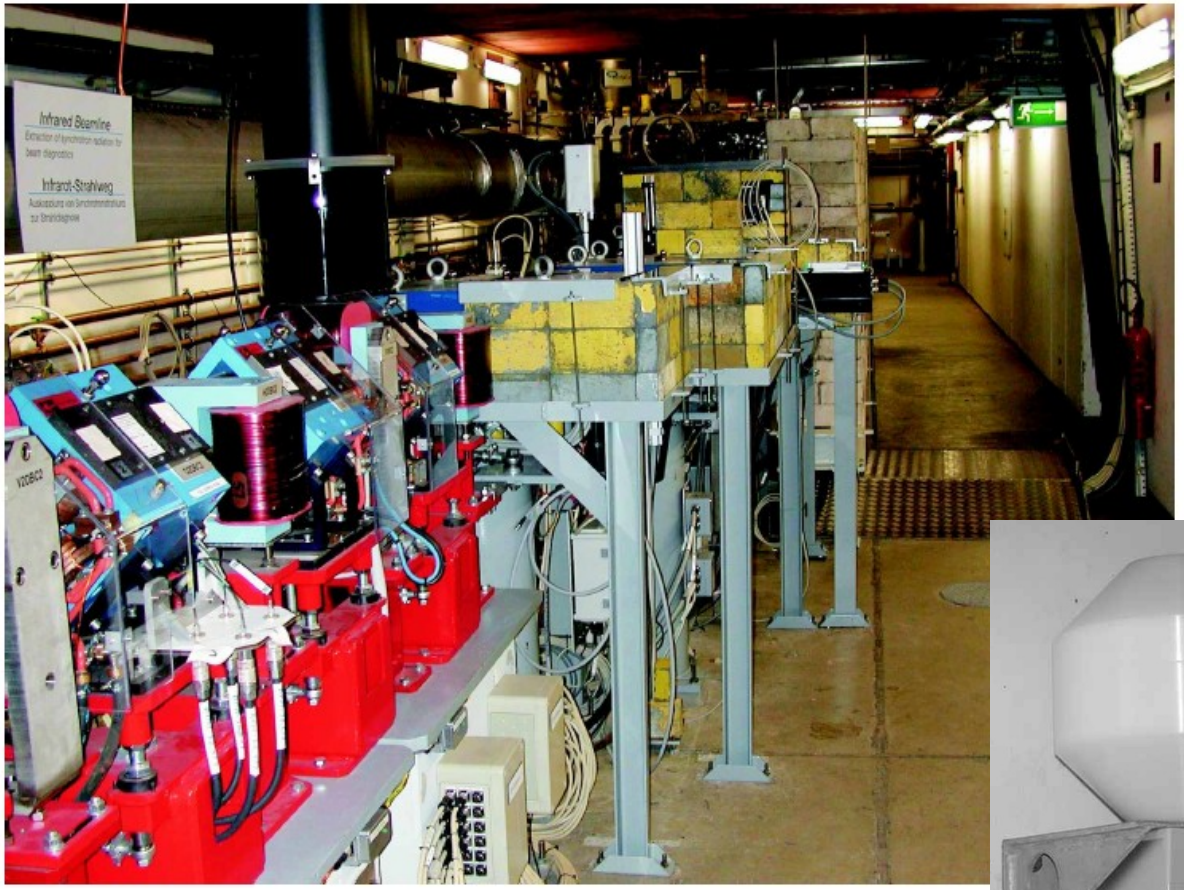
- *Year of founding - 1945*
- *Total number of staff- 2961*
- *Number of academic staff - 1534*
- *Number of professors - 270*
- *Number of students (first-cycle programmes, second-cycle programmes) - 20171*
- *Number of Ph.D. students (third-cycle programmes) - 508*
- *Number of non-degree postgraduate students - 1604*
- *Number of fields of study - 27*
- *Number of graduates in 2006 year - 2865*

- *Degree programmes taught in English*
- *Mechanical Engineering and Applied Computer Science*
- *Business and Technology*
- *Telecommunications and Computer Science*
- *Computer Science*
- *Biotechnology*
- *Science and Technology*
- *Degree programmme taught in French*
- *Gestion et technologie*

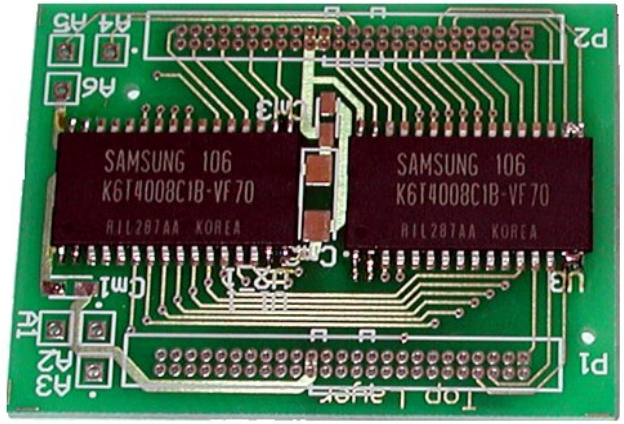
TUL, Department of Microelectronics and Computer Science

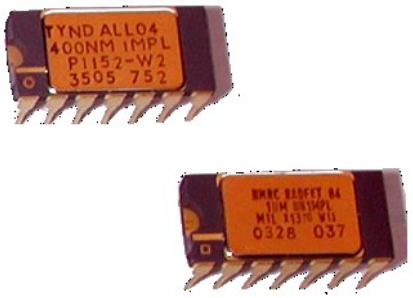
Professors: 5
Lecturers: 28
PhD students: 42

FLASH accelerator at DESY



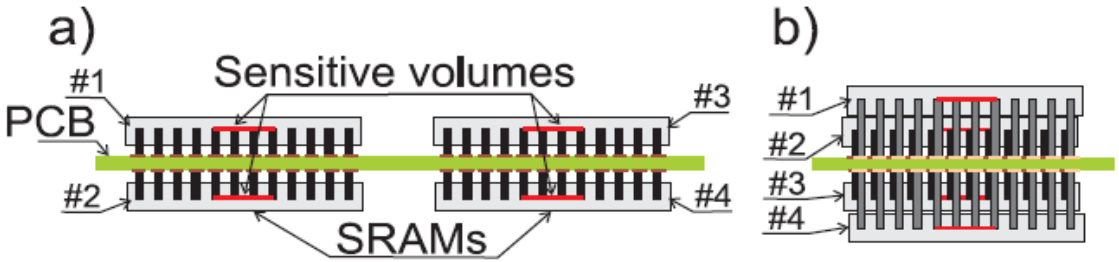
Radiation detectors





RadFET

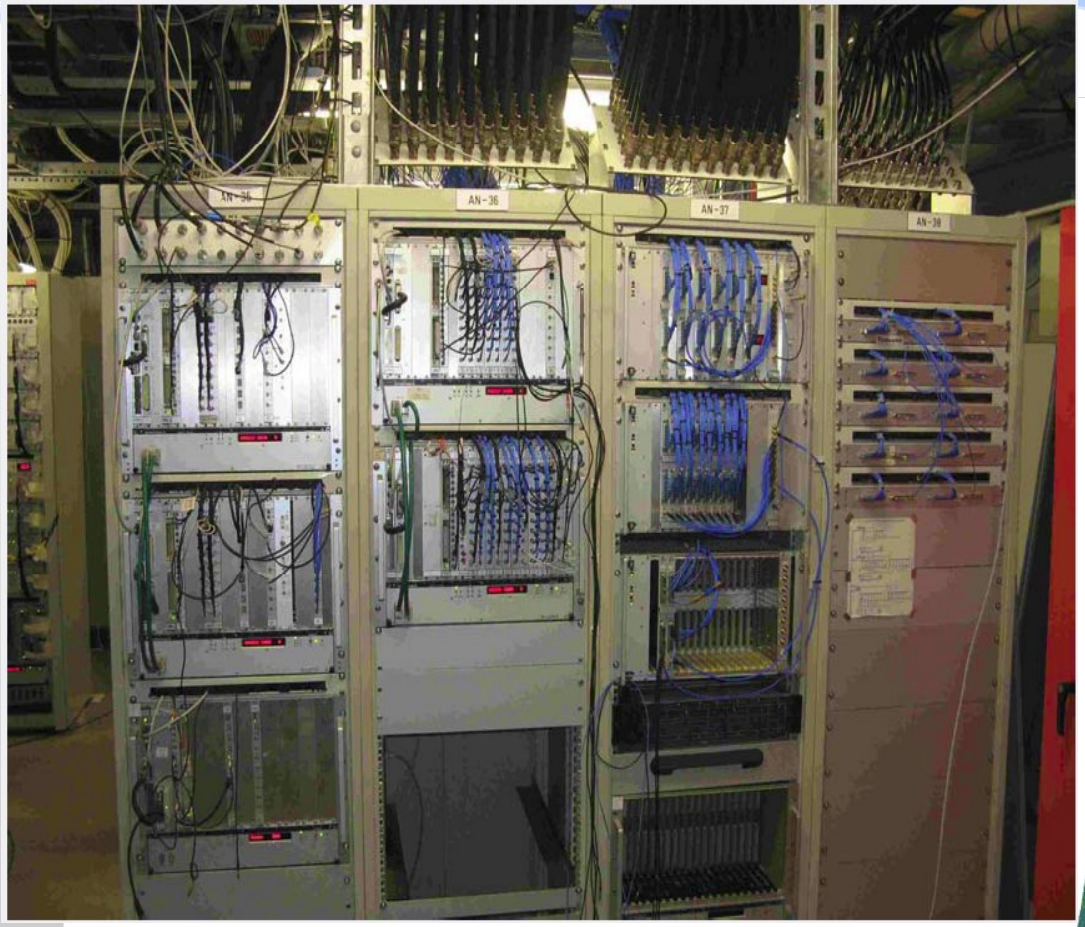
gamma dosimeter



SRAM memory

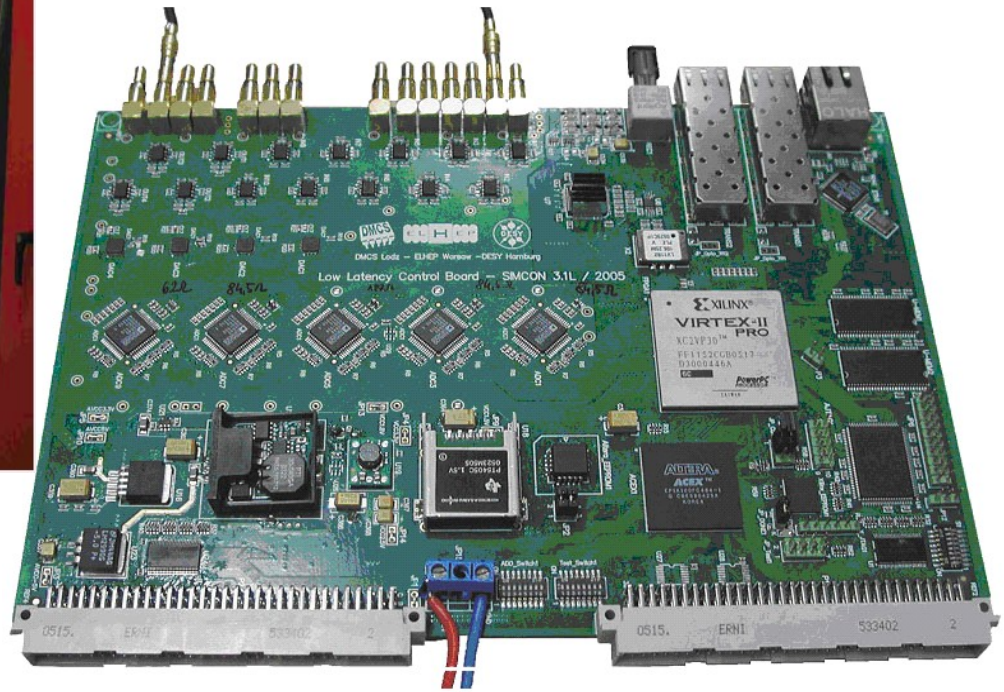
neutron detector

• LLRF control system of linear accelerator



LLRF control system of FLASH, DESY

SimCon 3.1L controller



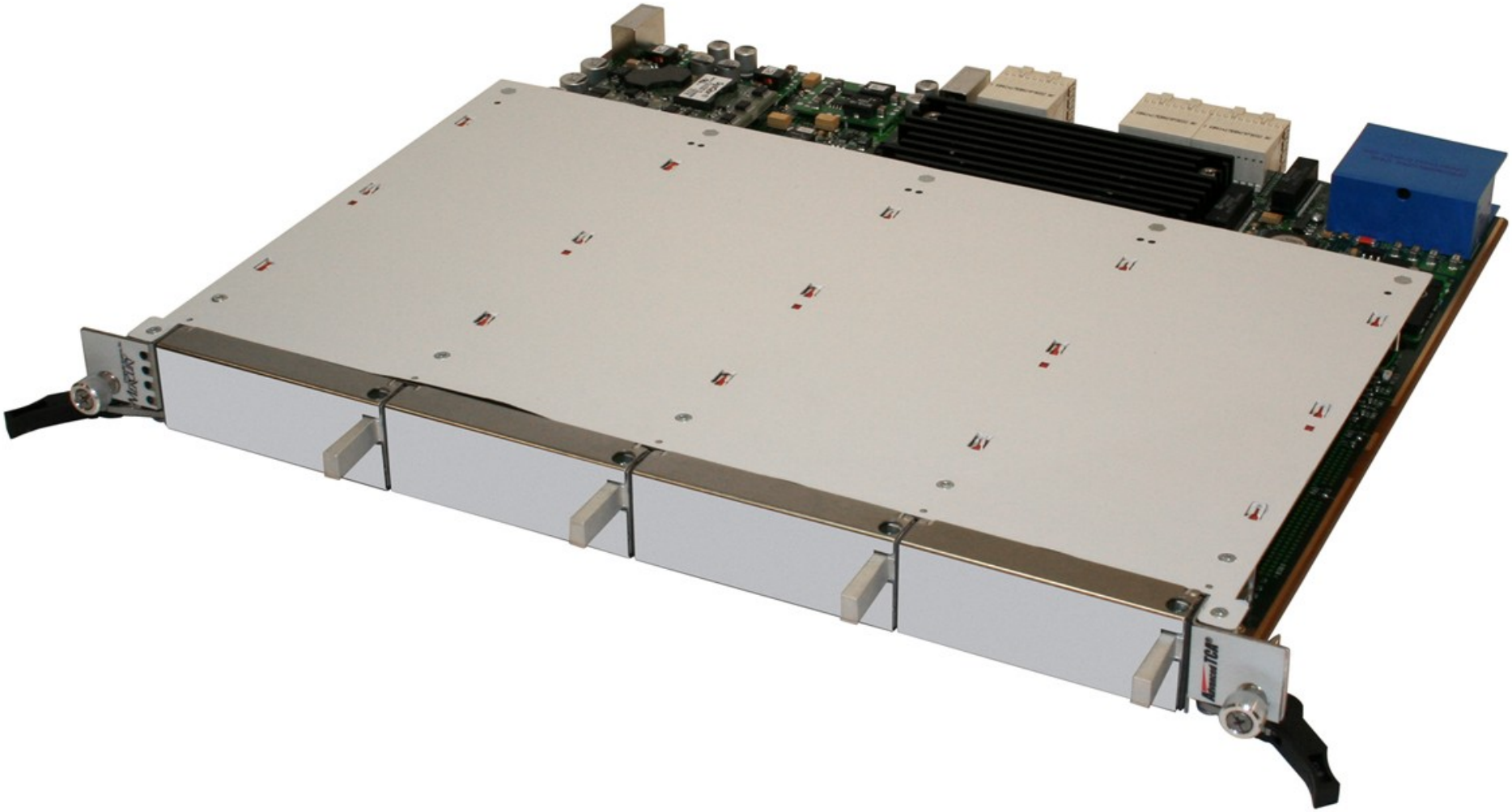
How to improve reliability of LLRF control system ?

?

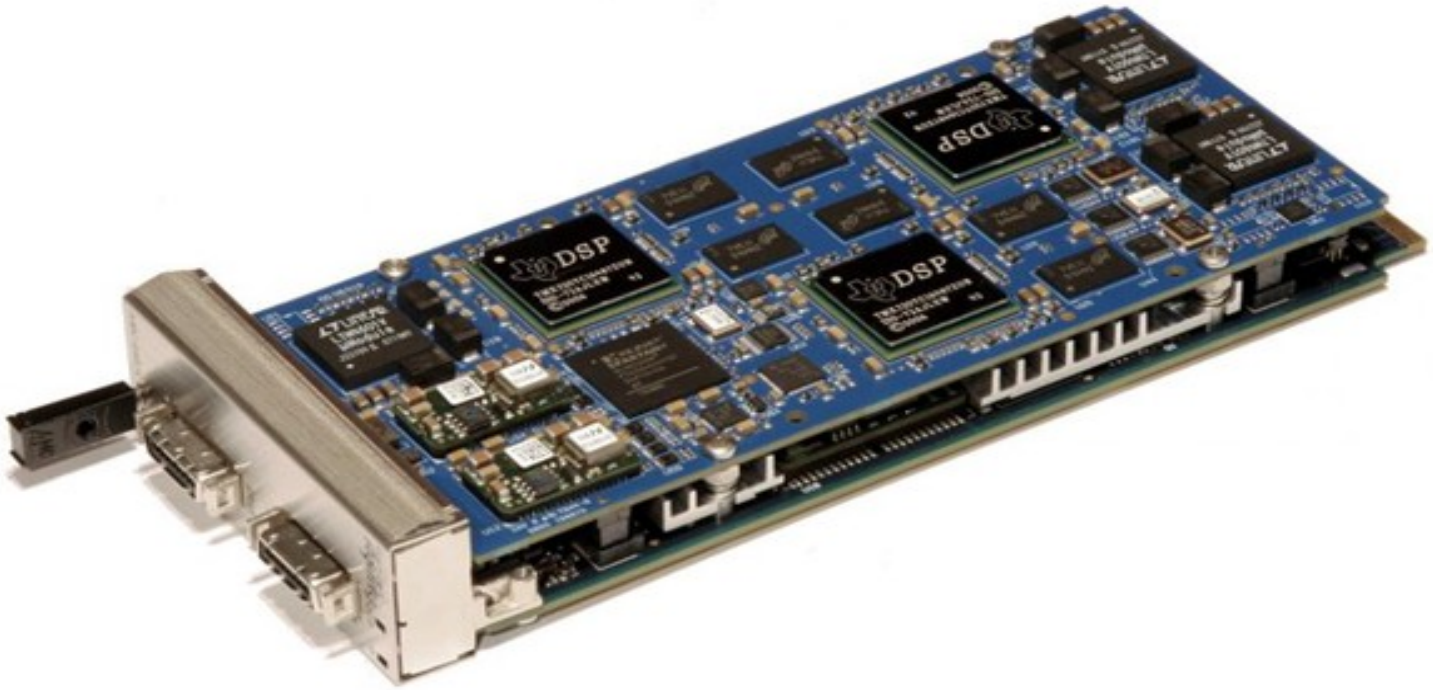
VME standard

ATCA standard

Exemplary ATCA carrier board with four AMC slots



Exemplary AMC module

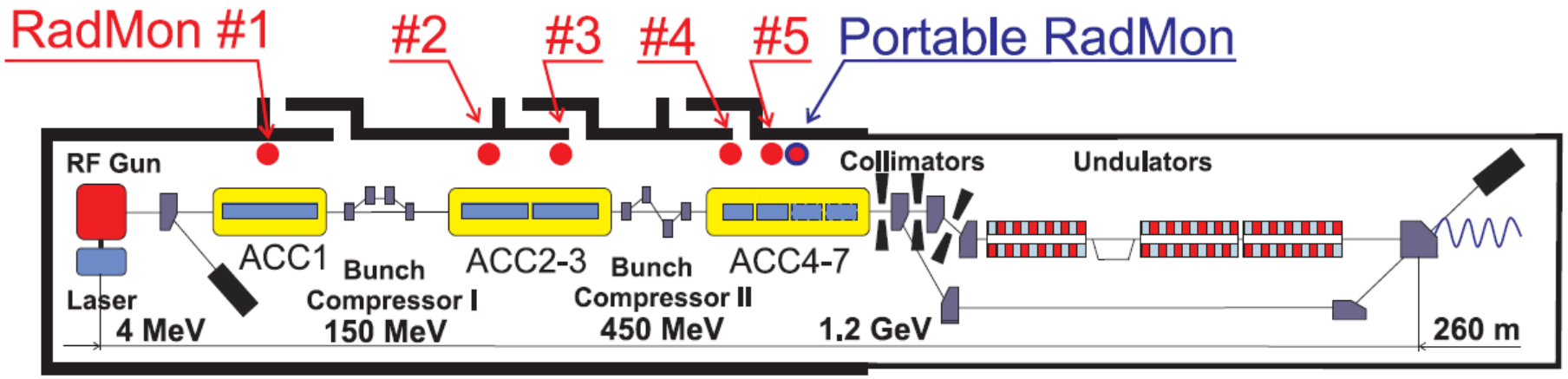


AMC standard requires implementation of complex supervisory and supply circuitry:

- ***Module Management Controller***
- ***Power Supply***

Thank you for your attention

RadMon detectors in FLASH



Radiation detectors

Detection ability	neutron fluence and gamma radiation dose
Lowest detectable level of fluence	10^4 – 10^5 neutron·cm^{-2}
Lowest detectable level of gamma radiation	10^{-2} – 10^{-3} Gy(Si)
Level of gamma radiation tolerance	within the range of 10^2 Gy(Si)
Level of neutron fluence tolerance	within the range of 10^{12} neutron·cm^{-2}
Dynamic rage for gamma radiation detection	3 orders of magnitude
Dynamic range for neutron fluence detection	6 orders of magnitude