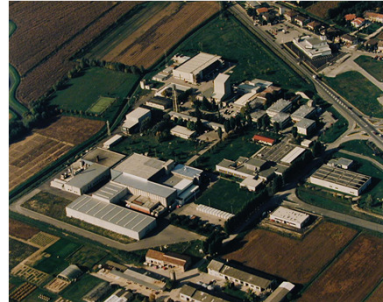


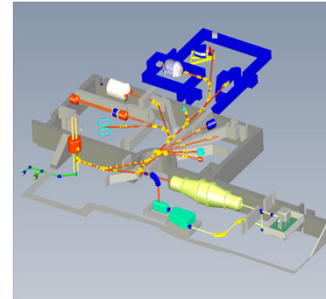


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ACCELERATORS



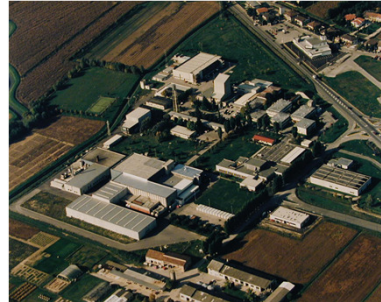
- **1.AN2000:** Electrostatic accelerator (2.5 MV)
- **2.CN:** Electrostatic accelerator (7 MV)
- **3.TANDEM-XTU:** Electrostatic accelerator (15MV). Energy from 30 MeV/AMU for ^1H to about 1.5 MeV/AMU for ^{197}Au .
- **4.ALPI:** Linear superconducting resonant cavities accelerator, large variety of accelerated Ions, Energy: about 20 MV multiplied the ion charge state. ALPI can be injected either from Tandem or from ECR source and PIAVE injector.



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- **1.TANDEM:** Electrostatic accelerator (15 MV).
- **2.K800:** superconducting cyclotron. Energy up to 80 MeV/AMU. Two ECR sources.
- **3.EXCYT:** exotic beams (0.2 up to 8 MeV/AMU). Beam injected by the ECR-source and accelerated by the K-800 (13C 45 A.MeV) will produce the required nuclear species ($^8,^9\text{Li}$, ^{21}Na 10^{4-6} pps) in a target-source complex (graphite), while the TANDEM acts as the final accelerator after mass-separator.

ACCELERATOR USE

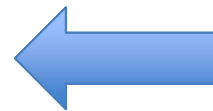


*ESA certification for chips
characterization*

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MAINLY USED FOR...

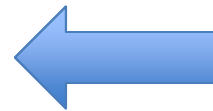
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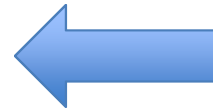
**solid state physics and applied
physics experiments**



**Interdisciplinary research,
neutron physics research and
advanced educational purposes**



**fundamental heavy-ions nuclear
physics experiments**



**Besides the Nuclear Physics PAC, there
is a dedicated selection panel for applied
physics experiments.**



ACCELERATOR USE

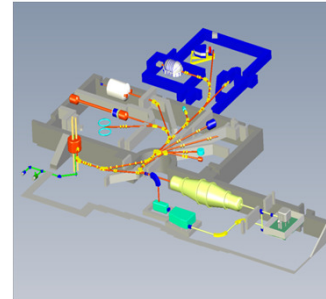
*ESA certification for chips
characterization*

MAINLY USED FOR...

Interdisciplinary research, solid state physics, radiobiology, applied physics, fundamental heavy-ions nuclear physics experiments and proton therapy (K800 62 MeV proton, >210 patients total – choroidal melanoma)

One PAC for Nuclear Physics and applied physics experiments.

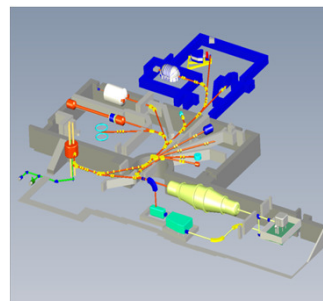
Dedicated BTU for proton therapy
Dedicated BTU industrial appli. (€)



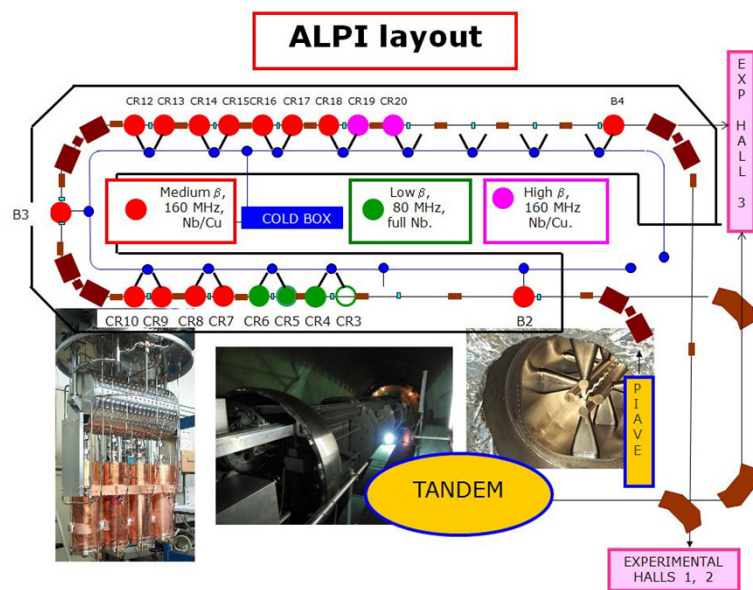
LNS Catania

- **1.TANDEM:** Electrostatic accelerator (15 MV).
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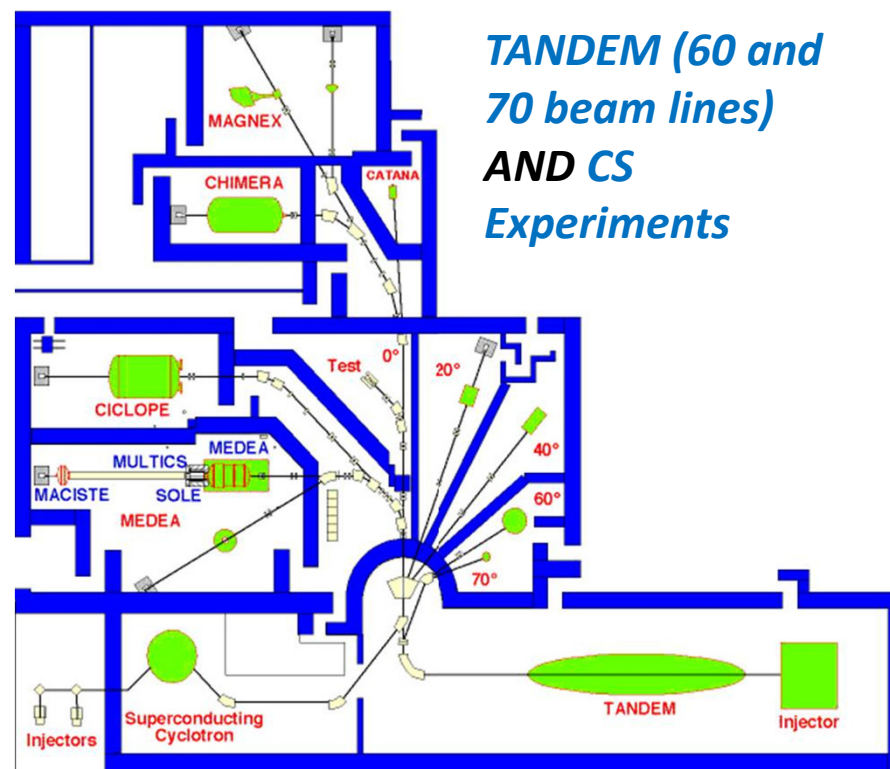
ACCELERATOR & BEAM LINES



TANDEM OR ALPI Experiments



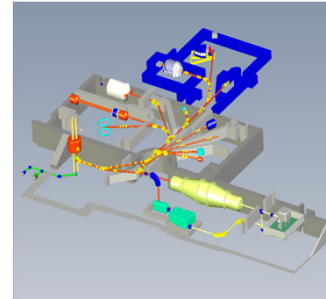
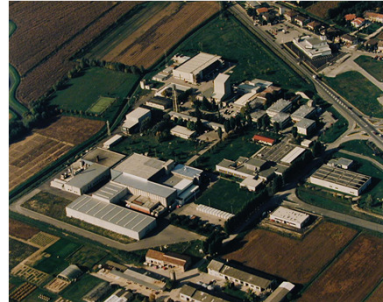
TANDEM (60 and 70 beam lines) AND CS Experiments





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PAC



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Present PAC's are composed of 7 international members appointed by the Board of INFN

*5 experimentalists NP
+ 2 theoreticians*

*5 experimentalists NP + 1 experimentalist
radiobiology + 1 theoretician*

At the PAC meetings (typically 2 per year (LNL) and 1 per year (LNS))
each proposal is presented orally by the spoke person
and ranked individually by each member to obtain the final global ranking
Criteria for the ranking are strictly based on scientific merits (and of course
on the feasibility of the experiment)

Production (articles) of past experiments is also taken into account



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TANDEM/ALPI

BEAM TIME Oct. 2011 – 1/2 Mar. 2012

TOTAL:

ALLOCATED: 372 BTU

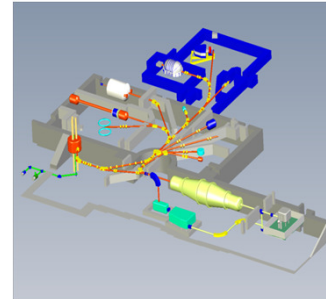
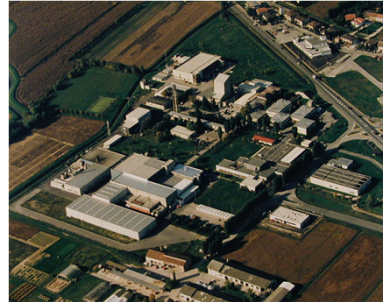
- PAC: 43%
- Backlog: 38%
- Applied Physics: 8% (other PAC)

NUCLEAR PHYSICS:

DEMAND = 363 BTU (16 experiments)

ALLOCATED = 168 BTU (8 experiments)

PAC



LNS Catania

BEAM TIME Oct. 2011 – May 2011

TOTAL:

DEMAND = 508 BTU (32 experiments)

ALLOCATED = 395 BTU (29 experiments)

Backlog = 31 BTU + 20 BTU(postponed exp.)
+ Medical treatment+Industry (not PAC)

NUCLEAR PHYSICS:

DEMAND = 379 BTU (17 experiments)

ALLOCATED = 299 BTU (13 experiments A
and 2 experiments B)

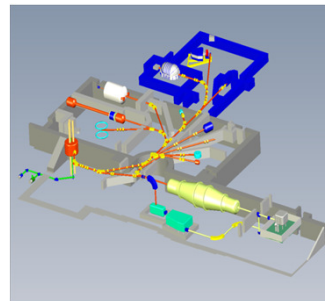
n.b:

1. CATANA line when used for medical treatment may be used at night for 62 MeV proton beam experiments.
2. TANDEM and K800 beams in parallel for some config.



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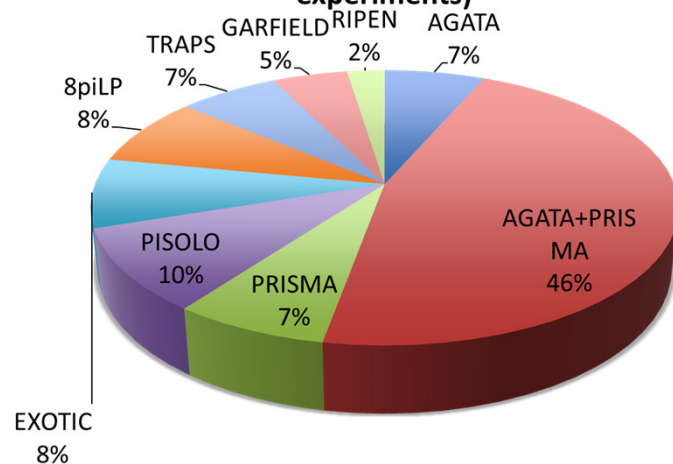
PAC



LNS Catania

Beam time request for PAC
period September 28, 2011 - March 14, 2012

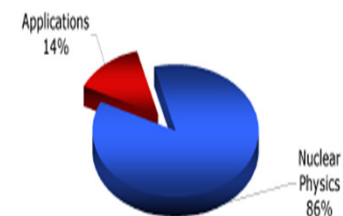
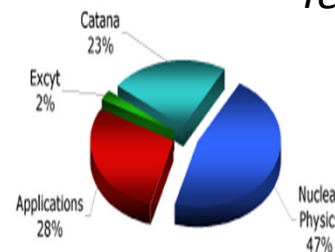
Total number of days = 121 (16 proposed experiments)



K800

Year 2010

TANDEM



Average beam allocation in the last 3 years

- Nuclear physics, detector development, etc. ~75 %
- Radiobiology experiments + Protontherapy ~10 %
- Other interdisciplinary experiments ~15 %

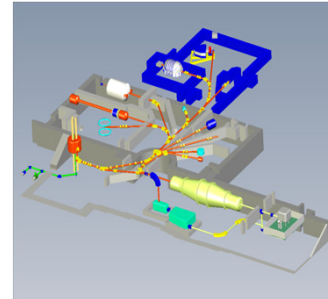
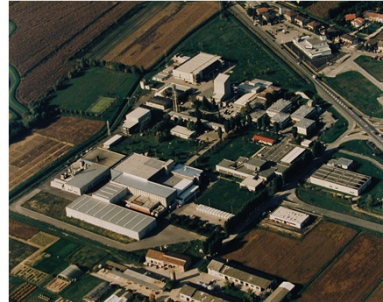
Beam R&D

FRIBs K800(100W)+Production target+Tagging detector = 8Li 20kHz, 8He 2kHz,...



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EQUIPMENT OF AN OTHER LAB.



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Examples:

- Plunger for lifetime measurement from Koln
- AGATA demonstrator from internat. Collaboration
- Transfer of germanium detectors to Orsay for magnetic moments measurements
- ...

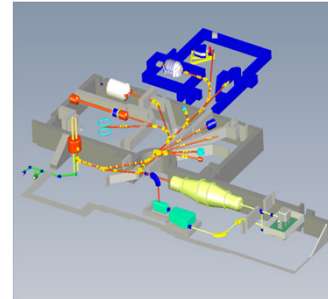
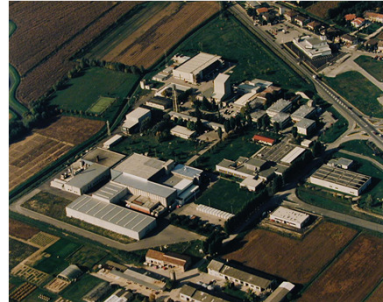
Examples:

- EDEN (n-detectors) from Orsay coupled with MAGNEX (spectro.).
- Transfer of part of CHIMERA multi detectors to GSI for Esym density dependance measurement.
- ...



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MISCELLANEOUS



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***THE GUEST HOUSE
IS
FREE OF CHARGE***