MY ERASMUS PLACEMENT
IN BELGIUM

Introduction of
Cecilia Brenna
The training program:

- was held at Atlas Copco Airpower, Antwerp, Belgium
- lasted 3 months
- dealt with different issues about compressed air systems
Antwerp is the most important city of Flanders and it is known as a notable touristic and trade pole in Europe...
As my first working experience, the internship has been characterized by an initial adaptation phase and later by a more extensive and practical study of the knowledge to be acquired.

The working environment was marked by a division into business units operating on small system portions, but however always interacting with each other to make efficient the overall coordination.

I have been inserted in the so-called GA-TEAM, a business unit specialized in the design and management of oil-injected screw compressor systems 90 kW upward and I cooperated with them on different issues...
OIL-INJECTED SCREW COMPRESSOR SYSTEMS

- Oil injection directly in the compression chamber
  - Problems linked with air quality
  - Components design in order to guarantee energy efficiency and pressure drop as small as possible
SAFETY OF MACHINERY

According to BS EN ISO 13849-1:2008

- analysis of machinery control system
- study of safety functions
- application of risk evaluation method
- eventual action of control system improvement

Diagram:

- ES PB (Emergency stop push button)
- TSHH (Temperature switch)
- K21
- K22
- K23
- K25
- K26
- Contactors
COMPRESSORS SELECTION CRITERIA

- Design and analysis of the installation
- Selection of working pressure
- Calculation or assessment of the air requirement (FAD)
- Evaluation of the specific energy required (SER)
- Consultation of FAD/SER graphs
- Comparison of different compressors energetic performances
ENERGY EFFICIENCY OPPORTUNITIES

- Energy consumption represents 80% of the system overall cost
- Energy-saving possibilities are among others:
  - energy recovery
  - pressure reduction
  - leakage reduction
  - correct choice of control and regulation system
- Over 90% of the power supplied to the compressor can be recovered in the form of highly valuable heat
- The highest degree of efficiency is generally obtained from water-cooled installations
KNOWLEDGE ACQUIRED

- Focus on component design and consumers needs
- Involvement in the production line and control tests
- Employ of design and system control softwares
- Identification of new technologies for energy saving
- Learning of technical vocabulary
Some further considerations...

- Very interesting and important experience from a formative and personal point of view
- Opportunity to face up with a working environment, new kind of relationships and compare others realities with the Italian one
- It’s important trying to find a balance between work and study activities
- Try to be assertive and ready to learn quickly and continuously
Thank you for your kind attention