

Optimization of Current Equipment for Lead Free Soldering of Electric and Electronic Components

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ISQ Profile

- **Founded in 1965;**
- **Privately owned, being a non profit technical and scientific association;**
- **Two hundred company members;**
- **Around 600 staff teamed with customers and partners;**
- **Turnover: 41 M€ (2002);**
- **Operating in 20 countries worldwide**



ISQ Location

Portugal

Headquarter: **Taguspark, Oeiras**

Delegations: **Porto, Sines, Castelo Branco**

Offices: **Braga, Viseu, Leiria, Loulé**

Brasil

Rio de Janeiro

Belo Horizonte

Macaé

México

Cidade do México

França

Saint-Genis-Pouilly

R. P da China

Beijing

Macau

Angola

Luanda

Cuba

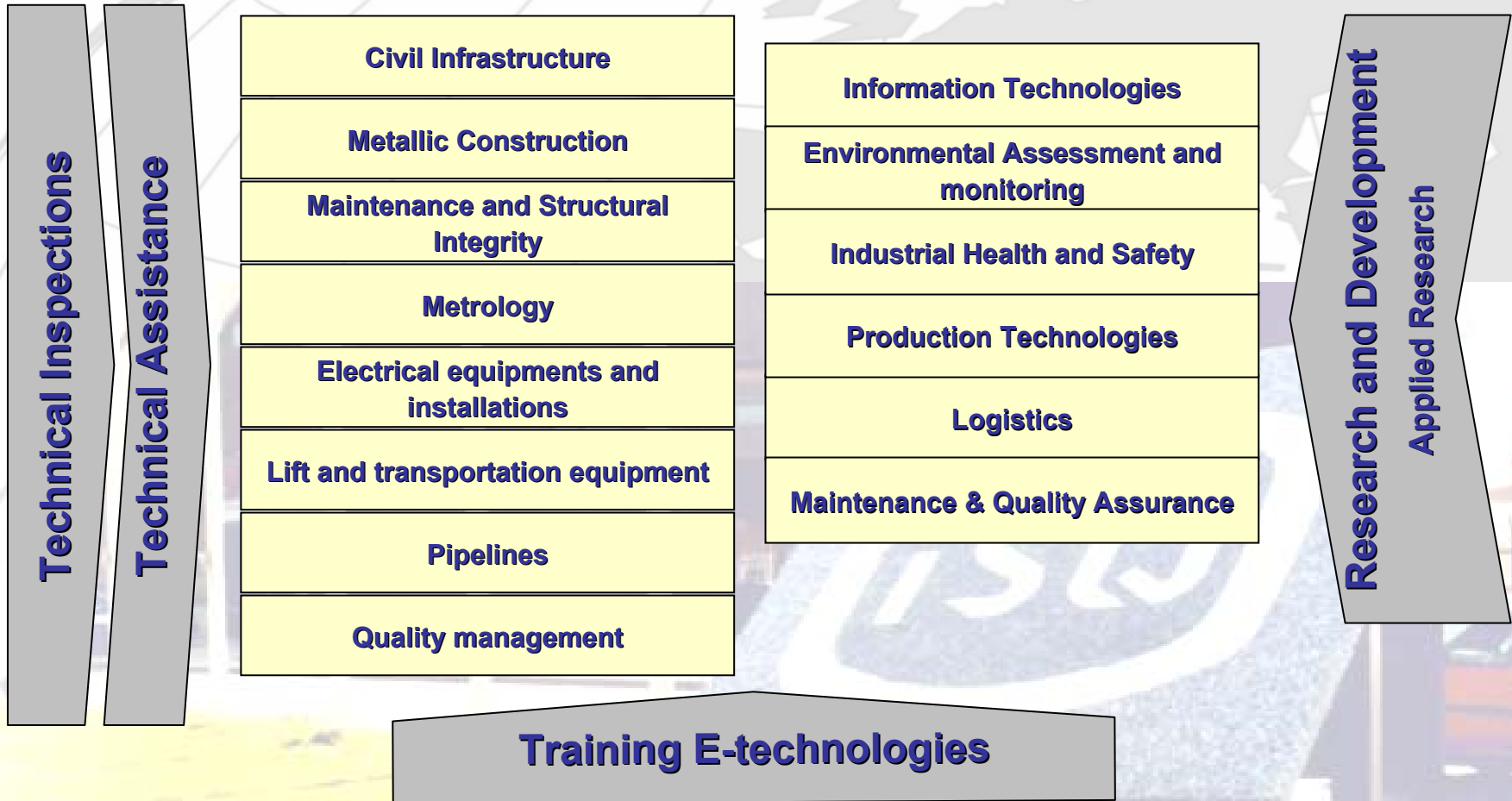
Havana

Turquia

Ankara



ISQ – Main Activities Areas



Markets

Aerospace Industry

Cement

Civil Infrastructure

Dairy and Agro-Food Industry

Government services

**Manufacturing
Industry**

Mining & Metals

Paper & Pulp

Petroleum & Chemical

Pipeline

Power

Laboratories

LABCAB

Laboratory of Electrical Cables Testing

LABEL

**Laboratory of Electrical Equipments
Testing**

LABEND

Laboratory of Non Destructive Testing

LABET

**Laboratory of Thermo Dynamical
Testing**

LABMEC

Laboratory of Mechanical Behaviour

LABMETRO

Laboratory of Metrology

LABMM

**Laboratory of Metallurgy and
Materials**

LABQUI

**Laboratory of Environment and
Chemistry**

LABRD

**Laboratory of Acoustic & Noise
Testing**

Other Laboratories (Non accredited):

Laboratory of Concrete Testing

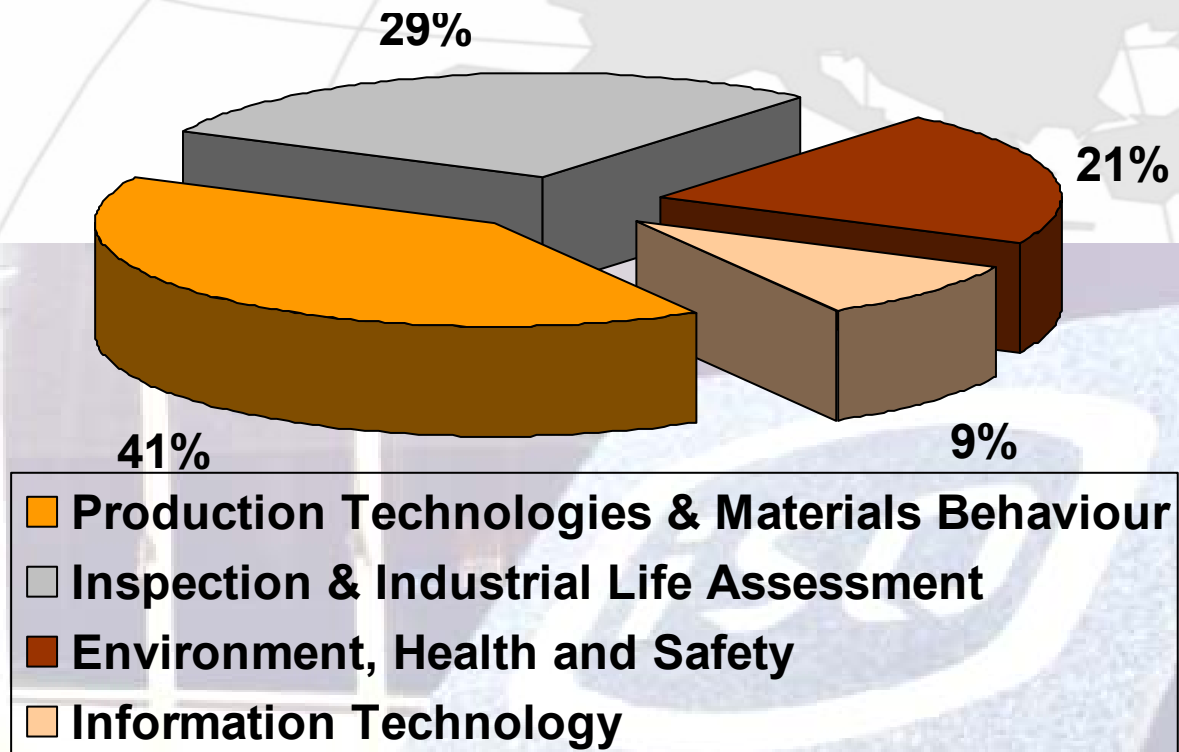
**Laboratory of Anticorrosion
Protective Coatings**

**Laboratory of Electromagnetic
Compatibility Testing**

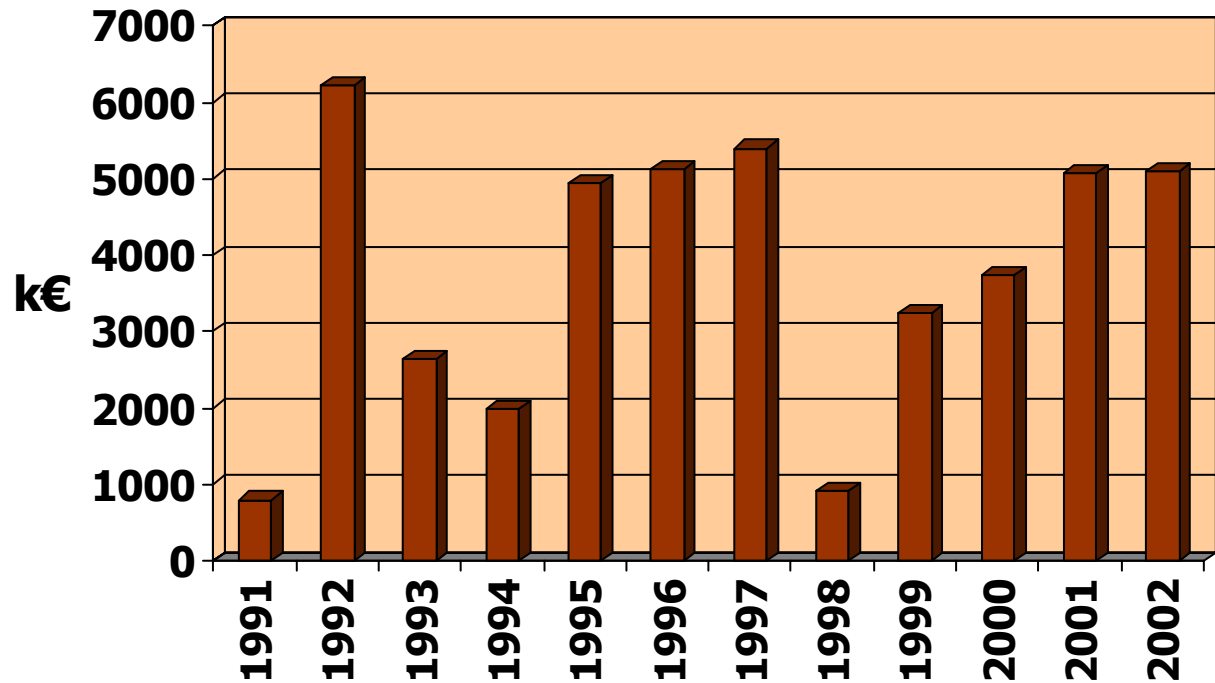
R&D in ISQ – Some Participating Programmes

- **BOLIVAR**
- **BRITE EURAM**
- **CECA**
- **CERN**
- **CRAFT**
- **ENVIRONMENT**
- **ESPRIT**
- **ISIS**
- **ISPO**
- **NATO**
- **PEDIP**
- **POE**
- **SAVE**
- **SMT**
- **SPRINT**
- **TTV/TVP**
- **ASIA IT&C**
- **ENVIREG**
- **EUREKA**
- **GROWTH**
- **INNOVATION**
- **6th FRAMEWORK**

Thematic Areas – Distribution

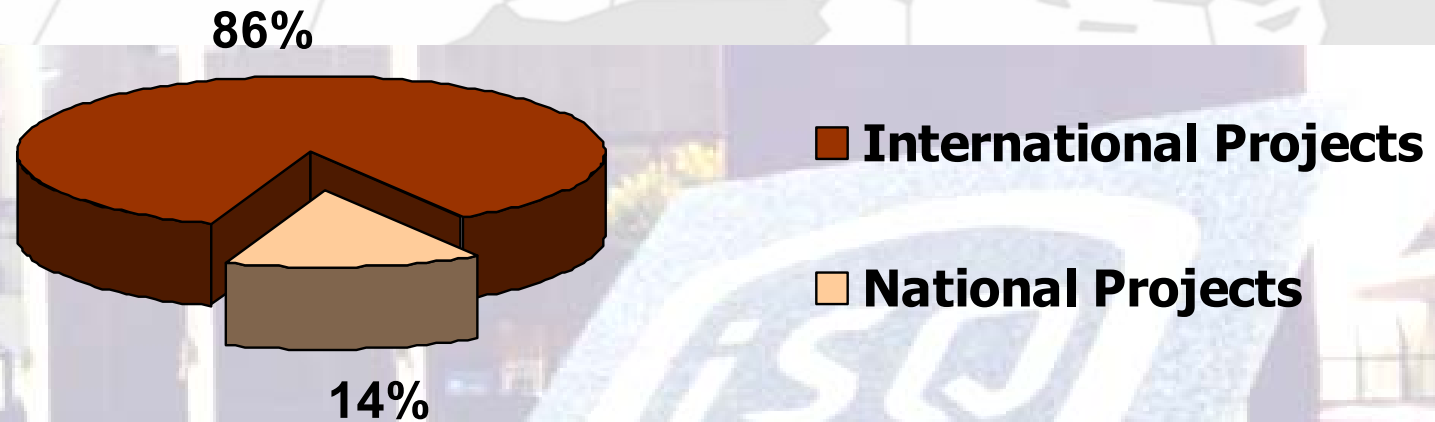


Investment in the last years



Submitted Projects

Total Number = 710



Partnerships

Companies, Institutes and Universities

- International Partners
 - ~ 1000
 - ~ 22 different countries
- National Partners
 - ~ 120

Situation of Portuguese Electric and Electronic Industry

- ANIMEE (Portuguese Association of Manufacturing of Electric and Electronic Equipment) represents the core business of main industries in Portugal:
 - 116 companies
 - 43000 workers
 - Turnover (2002): 4600 M€ / ~ 80% exportation

Other Companies Related to Electric/Electronic Devices

- End users (e.g. OGMA, TAP)
- New areas (aerospace companies)

ISQ Expertise in Electric and Electronic Equipment

- Accredited Lab's for electric and electronic compliance
- Large expertise on Quality Management and Quality Assurance
- Expertise on Lyfe Cycle Assessment
- Waste Management Consultancy of Electric and Electronic components
- Expertise on joining technologies

ISQ Participation in R&D Electronic and Electrical Related Projects

- Joining of Cooper and Aluminium Alloys by Laser (JOCAL)
- Conductive adhesives as a solder alternative in surface mount and multiship module technology
- European Lead-Free Soldering Network (ELFNET)
Approved - contract phase
- Low Cost Lead-Free Soldering Technology to Improve Competitiveness of European SME (LEADOUT)
Approved - contract phase

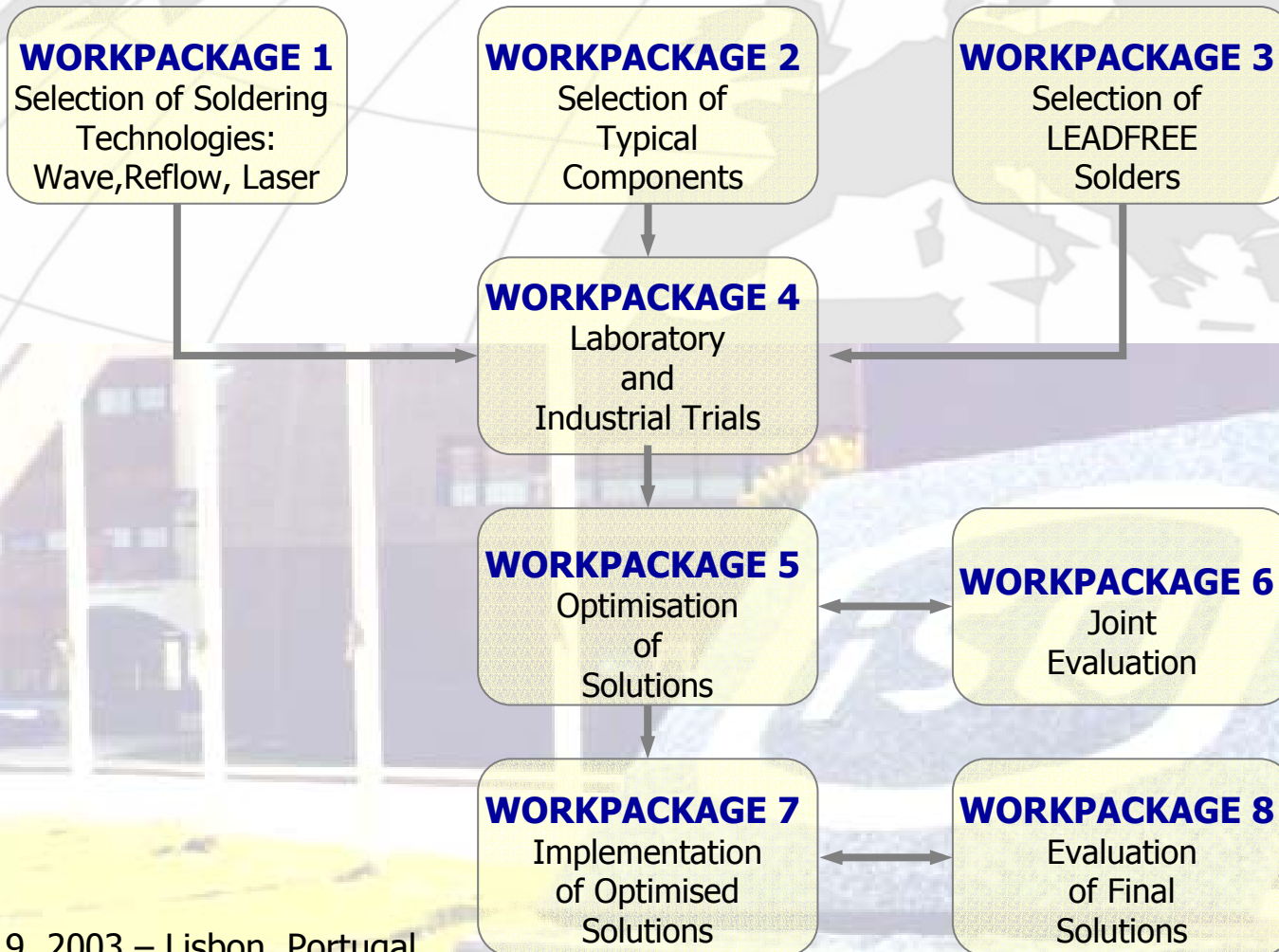
Detected Needs for R&D in Portugal and EU

- Management of the implementation from of Lead to Lead Free Soldering
- Analysis of existing equipment requirements behaviour to the Lead Free Soldering
- Quality assessment of components
- Process Window: Development and optimisation of Lead Free Process (Yield Point)

Project Proposal

“Optimisation of Current Equipments for LEAD
FREE Soldering of Electric and Electronic
Components – SOLDERING 2006”

Project Proposal Overview



Partners

ACQUIRED

- **C3P**
- **ISQ**
- **INEGI**
- **ITB, INC. / NASA**

POTENTIAL

- **IAG's (e.g. ANIMEE,...)**
- **INDUSTRIES (e.g. EFACEC, PHILIPS, PIONNEER, DELPHI,...)**
- **SMEs (e.g. SILGAL, STONE, TELCA, TEKELEC,...)**
- **UNIVERSITIES (e.g. IST, FEUP,...)**
- **RTD Centers (e.g. INESC,...)**

Procurement of Funding

- Companies Sponsorship
- National Programmes (e.g. POCTI, PRIME)
- EU Programmes (6th FP)

Conclusions / Next Steps

- Build up the consortium
- Finalize the proposal
- Procurement of financial resources
- Submission of the proposal