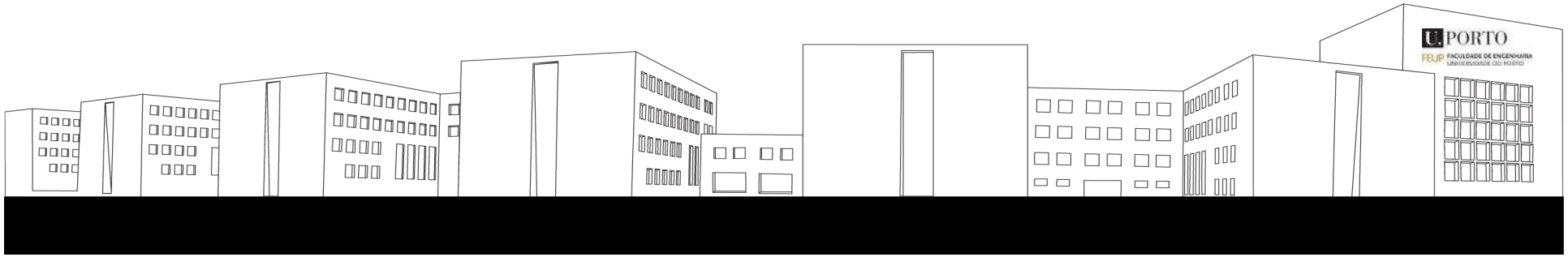
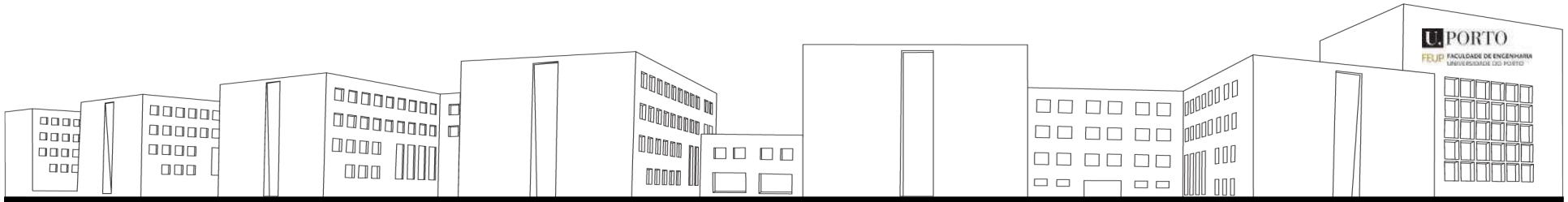


ORGANIZATIONAL ROLE IN PROVIDING STUDENTS WITH TOOLS TO DEVELOP PROFESSIONAL SKILLS (THAT MAKE THEM EMPLOYABLE)

Jorge Lino/Bárbara Rangel

DESIGNSTUDIOFEUP



Outline

1. **Courses of UPorto/FEUP in Industrial Design**
2. **Master in Product and Industrial Design (FBAUP/FEUP)**
3. **PBL – Role of Companies - Examples of Projects/Jobs Opportunities**
4. **Conclusions**

1. Courses of UPorto/FEUP in Industrial Design

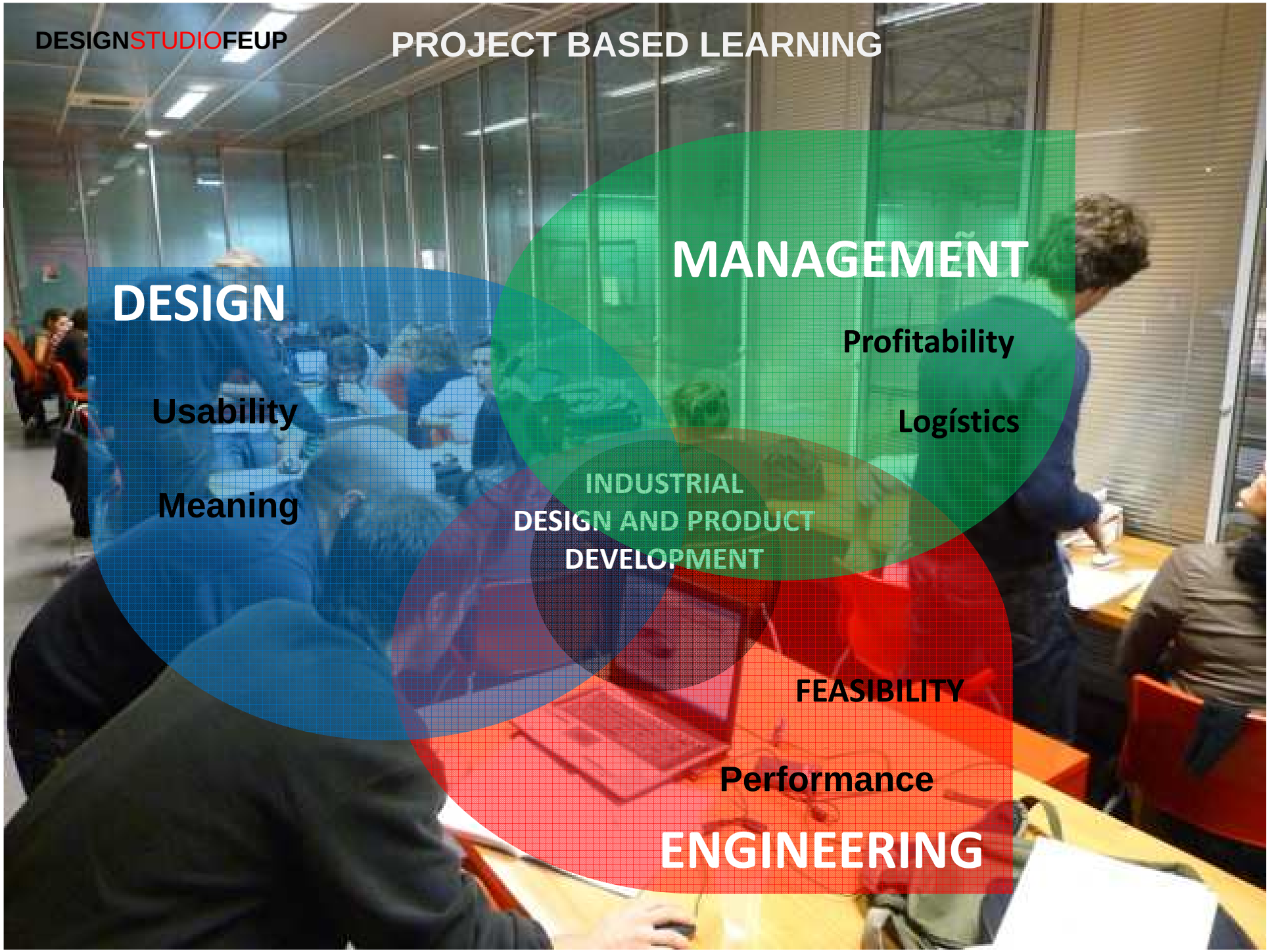
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017

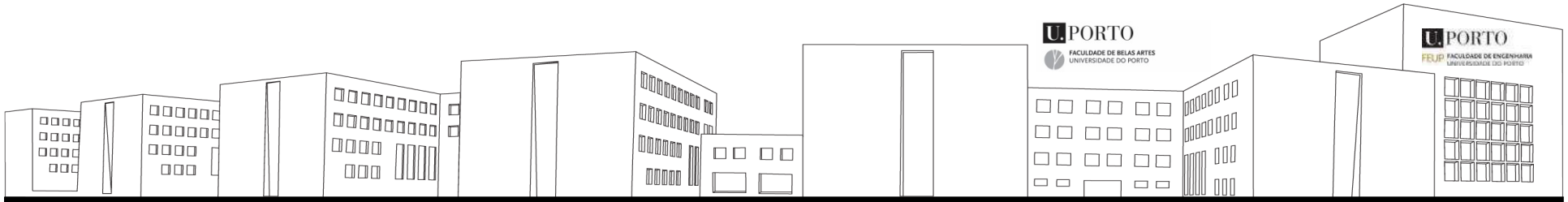
MSc in Industrial Design FEUP / ESAD

DESIGNSTUDIO**FEUP**

Specialization in Design and Product Development
Advanced Studies in Design and Product Development

Master in Product and Industrial Design (FBAUP/FEUP)


DESIGNSTUDIOFEUP
PROJECT BASED LEARNING
DESIGN
Usability
Meaning
MANAGEMENT
Profitability
Logístics
INDUSTRIAL
DESIGN AND PRODUCT
DEVELOPMENT
FEASIBILITY
Performance
ENGINEERING



2. Master in Product and Industrial Design – MDIP (FBAUP/FEUP)

Course of 2nd cycle - Bolonha

SEMESTER 1

Project Design

15 ECTS

DESIGN

Product Semantic

Ergonomics in Interaction Design

Drawing and Creative Process

3ECTS

ENGINEERING

Materials and Technology Sustainability and Eco design

3ECTS

MANAGEMENT

Strategic Design and Entrepreneurship

6ECTS

SEMESTER 2

Project Industrial Design *(option DI)*

Project Product Design *(option DP)*

12 ECTS

Product Communication 3ECTS

Computational Modulation and Prototyping 6ECTS

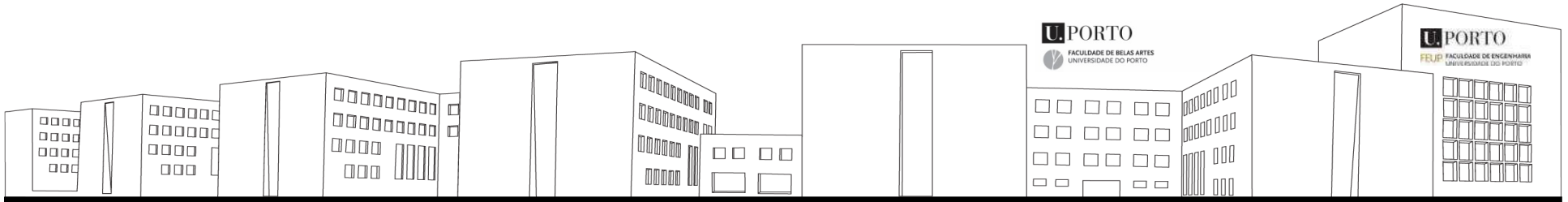
Constructive Intelligence and Detail 3ECTS

Design of Constructive Solutions 3ECTS

Option DP

Option DI

2. Master in Product and Industrial Design – MDIP (FBAUP/FEUP)



SEMESTER 3

Project/Dissertation/Internship

Project Methodology and Research
3ECTS

Any UC UPorto
3ECTS

Design

Contemporary Themes
6ECTS

Option DP

Engineering

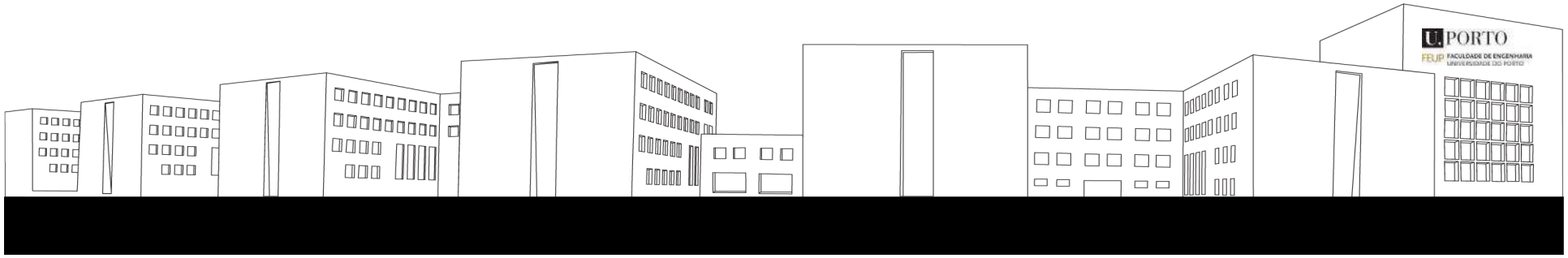
Product Development Management
6CTS

Option DI

48 ECTS

SEMESTER 4

Project::Dissertation::Internship



3. PBL

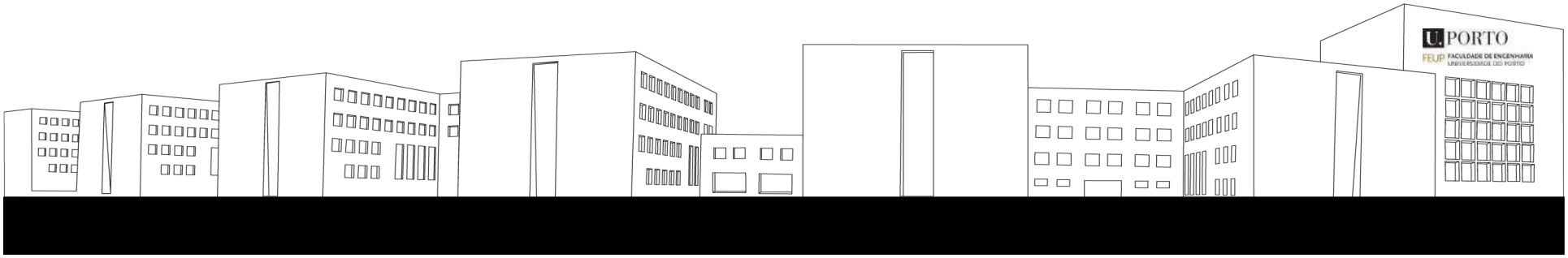
Role of Companies

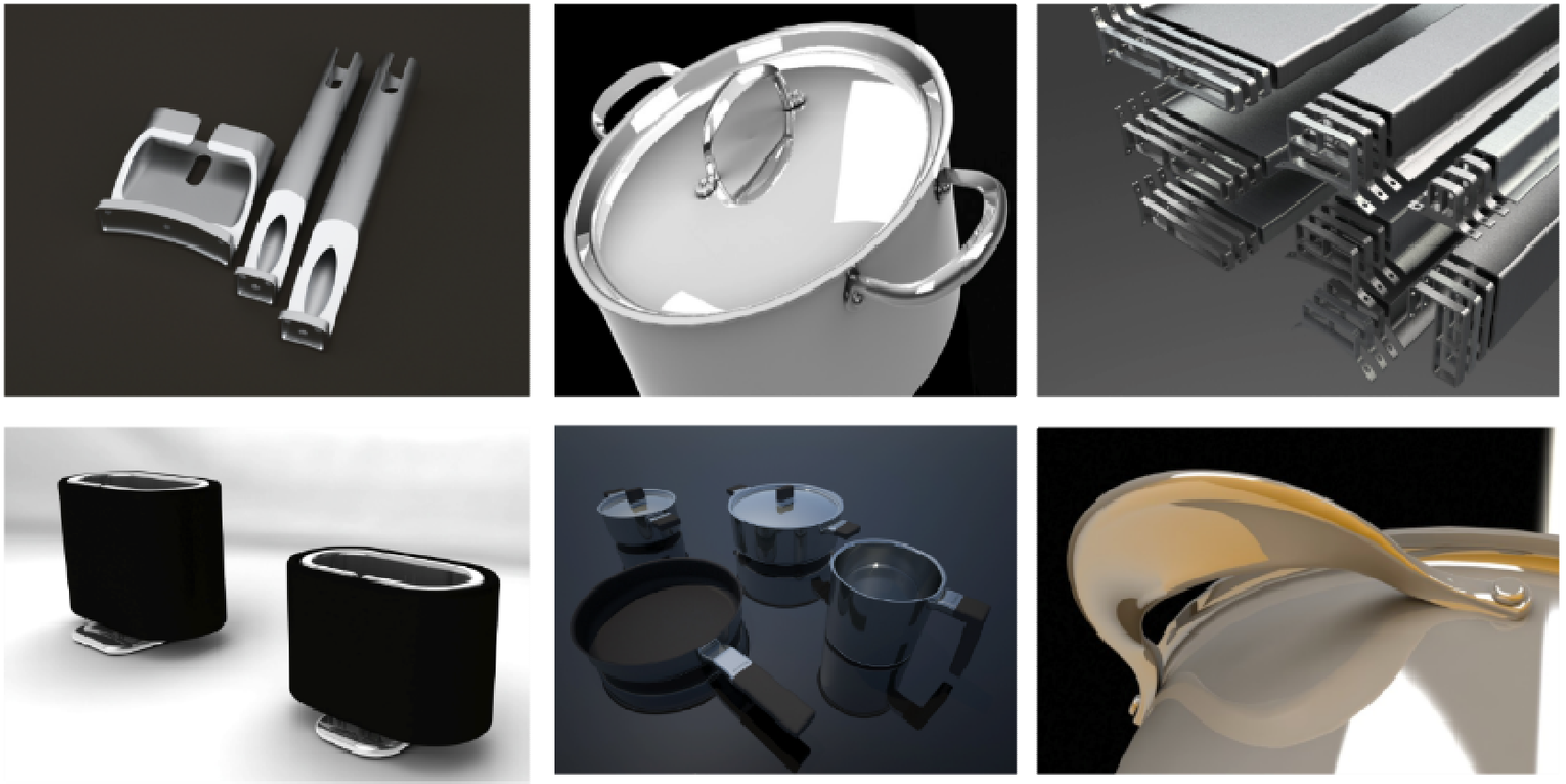
Examples of Projects

Jobs Opportunities

Visit to CIFIAL (2011/2012)

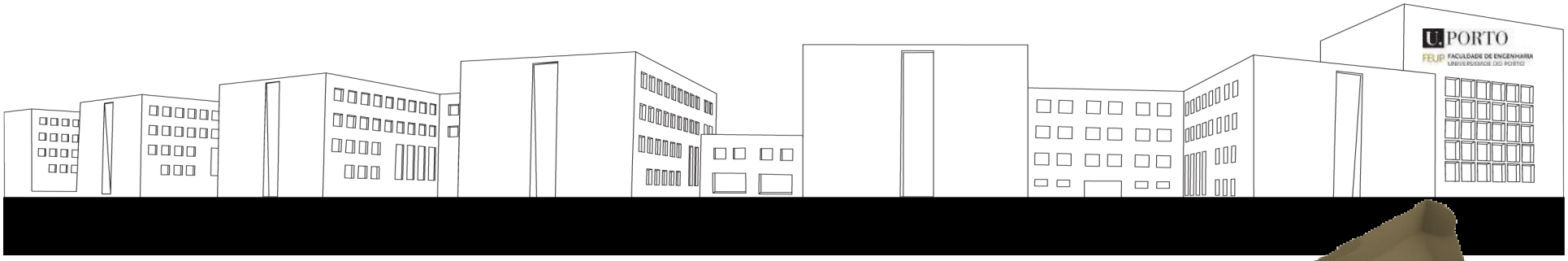
Each project has the cooperation of a partner company or other external entity that launches, monitors and validates the results obtained, without participating in the assessment, which is sole responsibility of the Faculties.

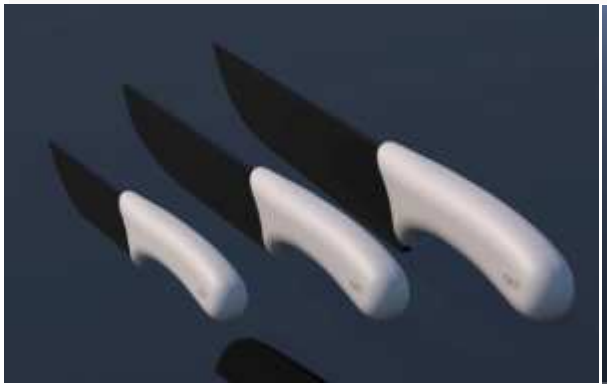


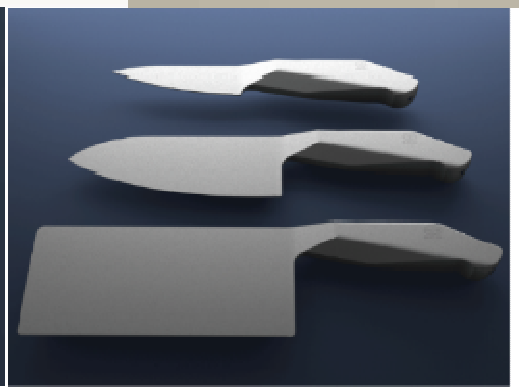


ACESSORIES (Silampos) – 2010/11

Cecília Carvalho, Bruno Oliveira, Bruno Alberto Oliveira, Jaime Sarró, Mariana Rodrigues, Nina Costa, Pedro Costa





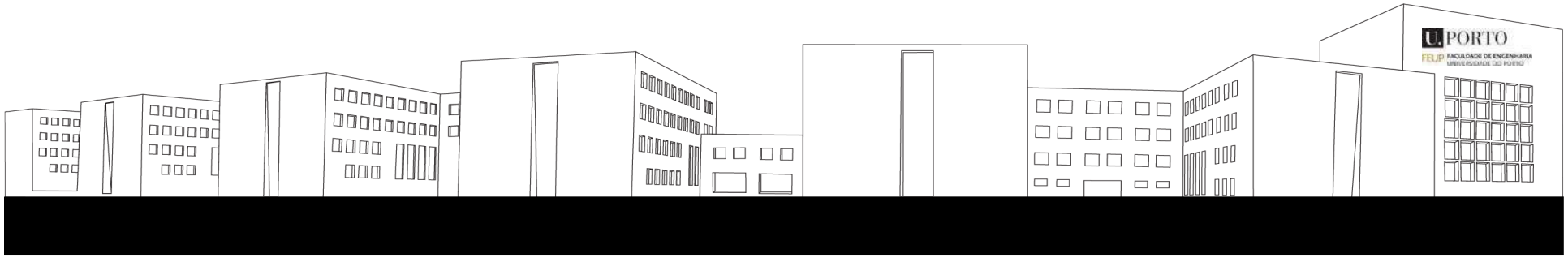


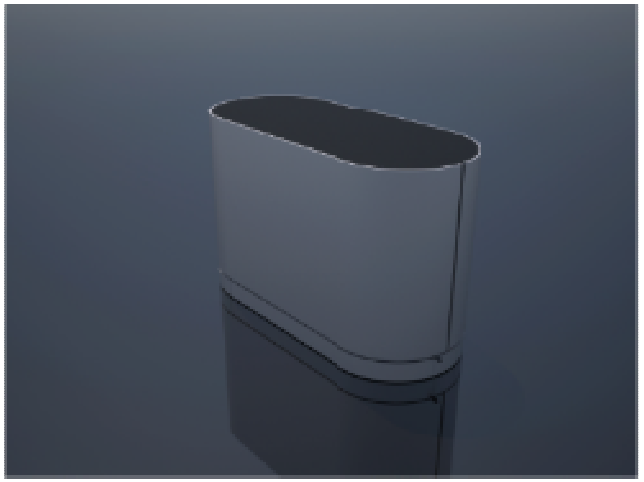
KNIVES (Sico) – 2010/11

Cecília Carvalho, Bruno Alberto Oliveira, Pedro Costa, Bruno José Oliveira, João Rebelo

HARDWARE (Cifial)

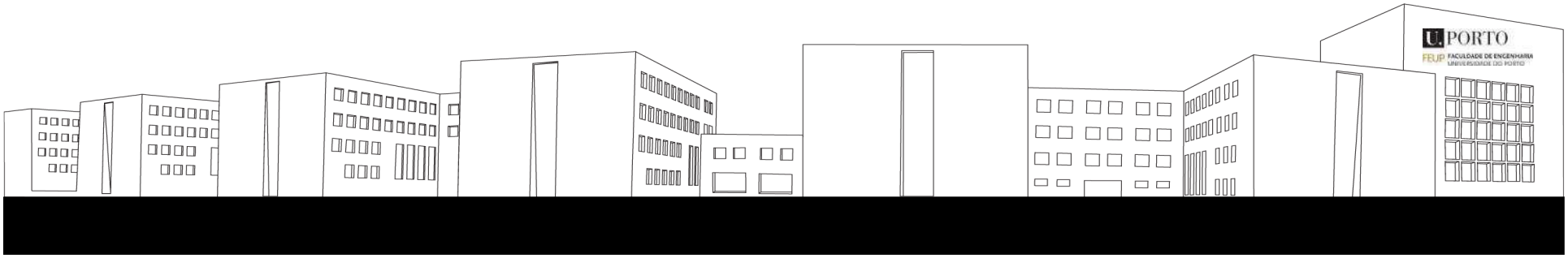
Bruno Alberto Oliveira, Bruno José Oliveira, Jaime Sarro, João Rebelo, Cecília Carvalho, Pedro Praça



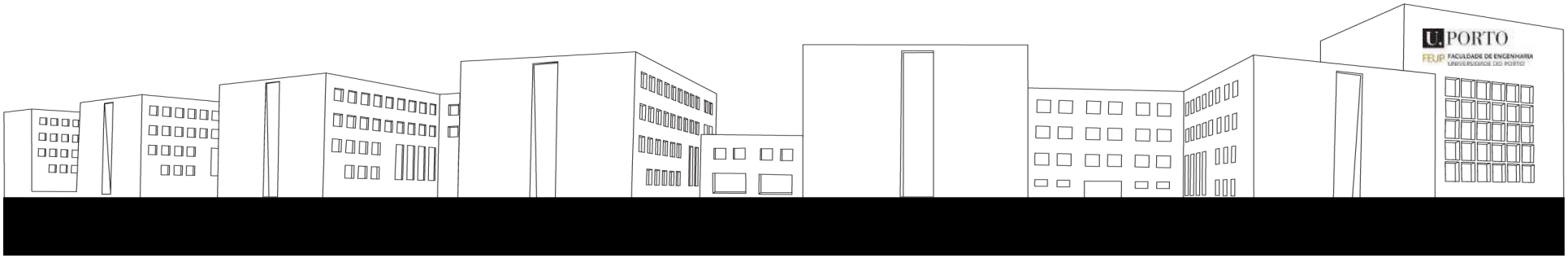


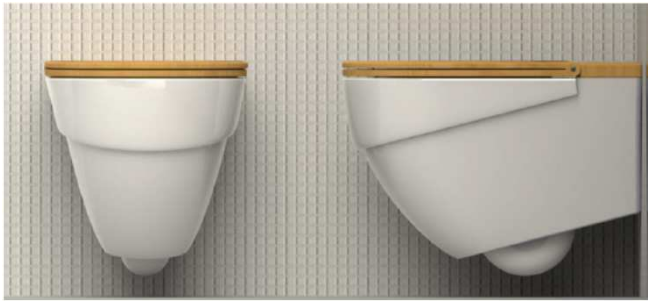
TOASTERS (Flama)

Liliana Figueiredo, Sofia Santos, Pedro Costa



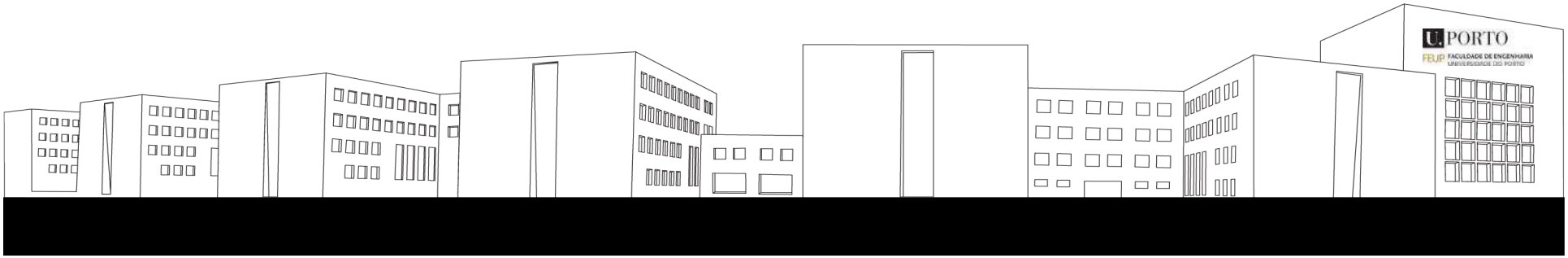
Catarina Violante

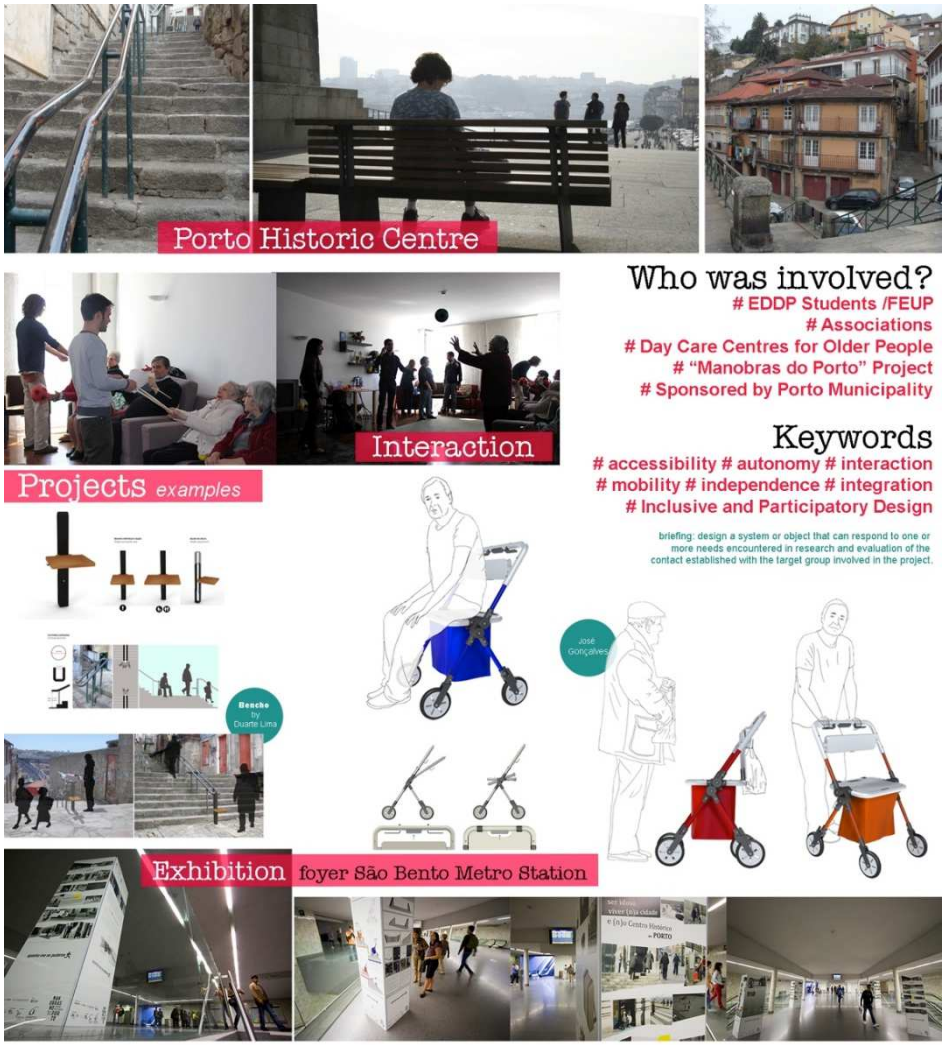




CIFIAL (2011/2012)

Diana Santos, Diogo Fula, Duarte Lima, Tiago Gamboa, Tiago Teixeira



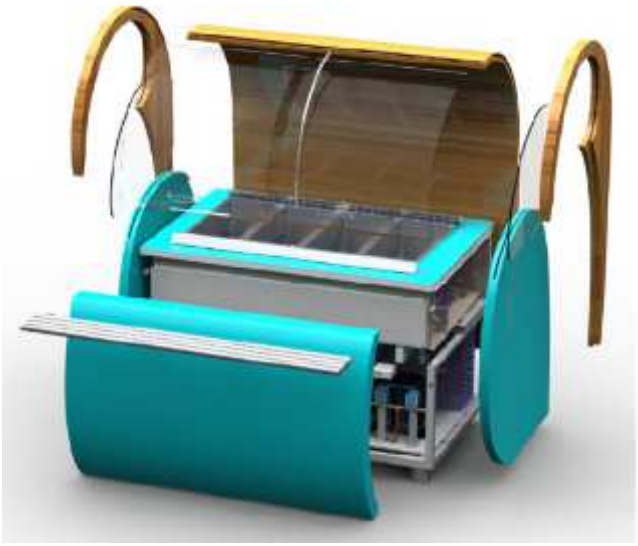


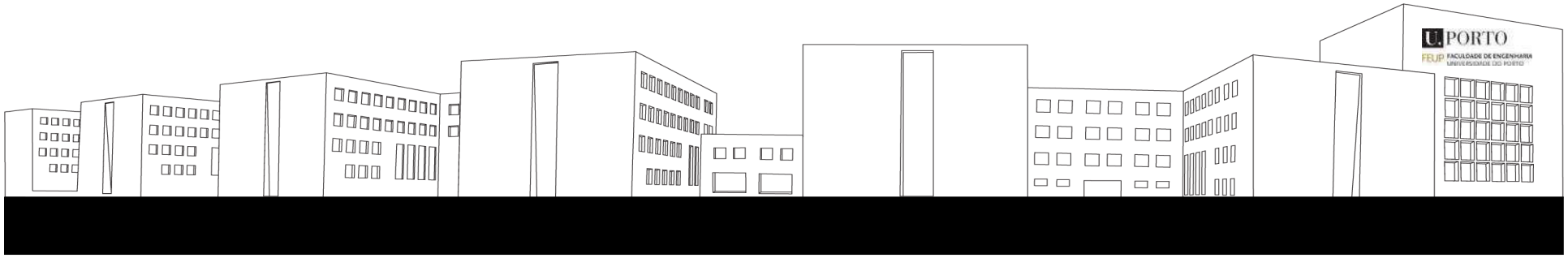
MAN OBRAS NO CENTRO HISTÓRICO 2011/2012 PORTO

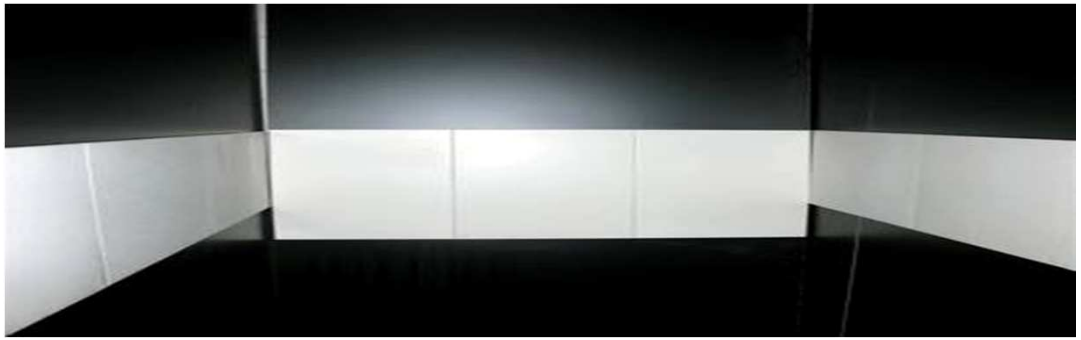
apanha-me se puderes

Exhibition of projects, Metro station– S. Bento, Porto

Jordão Cooling Systems







Tiles with smell, Miguel Pessoa

Design composite materials, Júlio Martins

Design of interiors ambulances, Augusto Coelho

Nisa’s quartz inlaid pottery – Workshop, Nisa, 2013












Nisa’s quartz inlaid pottery – Workshop, Nisa, 2013

CRAFTS2dESIGN

ASSOCIAÇÃO DE SALVAGUARDA DO PATRIMÓNIO CULTURAL

Urban furniture developed with Norchapa (Fafe)

School chair stackable and adjustable for 1st cycle_NAUTILUS (2014)

School chair stackable and adjustable for 1st cycle_NAUTILUS (2014)

GOErgo presents
The 18th Annual
applied ergonomics
CONFERENCE 2015
Practitioners talking with practitioners

Creativeness in Ergonomics (CE) Student of the Year Award
NOMINATION FORM

CNA

Wrist protector – ERT and Polisport (2014)

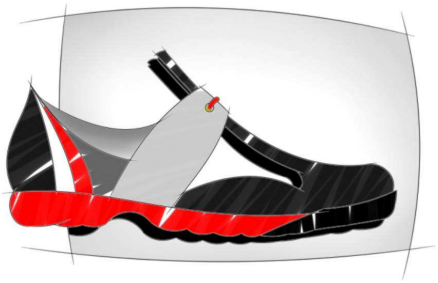
Group Trivalor – Gertal – 2014/15

Rita.Red.Shoes Project – Cerebral Palsy – 2014/15

RITA.RED.SHOES

cerebralpalsy.designprojet'2015

Master in Product and Industrial Design FEUP + FBAUP



SORRISO da RITA

Associação de Solidariedade Social

apcc

Associação de Paralisia Cerebral de Coimbra

Sheffield Hallam University | Art and Design Research Centre

IDEIA.M

RITA REDSHOES

10 //SOCIEDADE

Sapatos "made in" FEUP para paralisia cerebral

Alunos da Faculdade de Engenharia criam soluções ortopédicas com design

Inês Schreck
ines@jn.pt

Rita Redshoes apoia o projeto da FEUP para a Rita, da Associação Sorriso da Rita

RITA, cujo sorriso dá nome a uma associação, contou um dia que tinha muita dificuldade em encontrar sapatos bonitos, confortáveis e adequados às suas necessidades. A confidência chegou aos ouvidos de Lígia Lopes, professora do mestrado de Design Industrial e de Produto da Faculdade de Engenharia da Universidade do Porto, que desafiou a turma a resolver o problema de Rita e de muitas outras pessoas com paralisia cerebral.

O projeto, que nasceu de uma conversa do acaso, teve o apoio imediato da cantora Rita Redshoes, convidada a apadrinhar o "cerebralpalsy.designproject2015" porque o seu nome – o artístico e o apelido verdadeiro (Pereira) – tem tudo a ver com a Rita, o rosto da associação de solidariedade social Sorriso da Rita.

Os cerca de 20 alunos do curso de mestrado (parceria da FEUP e da Faculdade de Belas Artes da Universidade do Porto) receberam ontem o desafio e até hoje à tarde têm de apresentar um conceito dos modelos a desenvolver. Para isso, vão contar com a experiência de alguns professores da área e com a ajuda de pessoas com deficiência. Depois, têm seis meses para desenvolver os sapatos que devem associar o design às soluções ortopédicas adequadas.

"Normalmente os produtos para a área da deficiência são feios, confortáveis mas feios. Há ideia de que as pessoas gostam de tudo preto para ser discreto, mas não é assim. A Rita tem uma cadeira de rodas vermelha e usa sapatos vermelhos", exemplifica Lígia Lopes que espera ter, em novembro, cerca de 12 modelos de sapatos para apresentar. "Espero com isto também chamar a atenção para esta problemática", acrescentou a docente.

A empresa de calçado Klaveness, marca norueguesa com fábrica em Vila Nova de Gaia, já manifestou disponibilidade para produzir os modelos criados pelos estudantes, adiantou Lígia Lopes.●

"QUANDO APOIOS CHEGAM SAPATOS JÁ NÃO SERVEM"

Todos os anos, o Governo disponibiliza uma verba para comparticipar a compra de produtos de apoio (antes, chamavam-se ajudas técnicas) a cidadãos com deficiência. Mas a burocracia para pedir apoio para adquirir, por exemplo, uns sapatos é tanta, que, "quando o apoio, chega os sapatos já não servem". É necessário ir a várias consultas, preencher uma série de formulários e "nada é garantido".

A dificuldade é corroborada por Lia Ferreira, provedora da Câmara Municipal do Porto para os Cidadãos com Deficiência. O facto da verba, definida anualmente, ser limitada e insuficiente torna o processo ainda mais difícil.

"É muito frequente esgotar antes do final do ano porque há muita gente a precisar destes apoios", nota Lia Ferreira, explicando que, um acréscimo de 400 mil euros, como o feito pelo Governo no ano passado após o protesto na rua de um deficiente, não chega porque estão em causa produtos muito caros. Um cadeira de rodas pode custar quatro mil euros, exemplificou.

Master Thesis Daniel Ferreira – 2015/16

Product Description

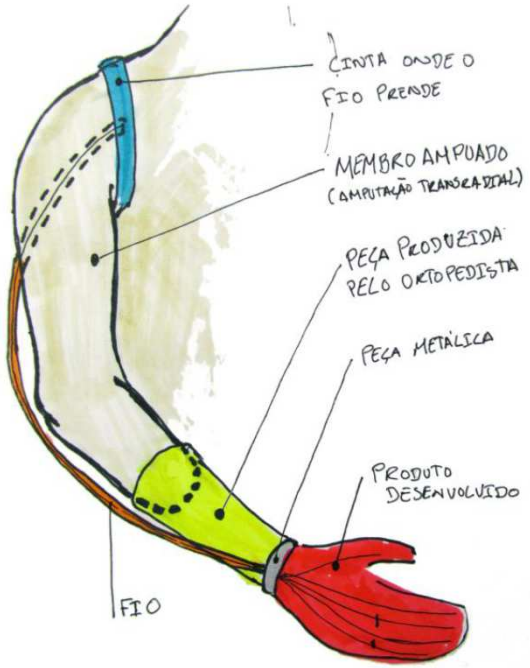


Figura 1 Mechanical prosthesis.

Figura 2 – Cosmetic glove in silicone.

Figura 3 – Tumb position 1.

Figura 4 – Tumb position 2.

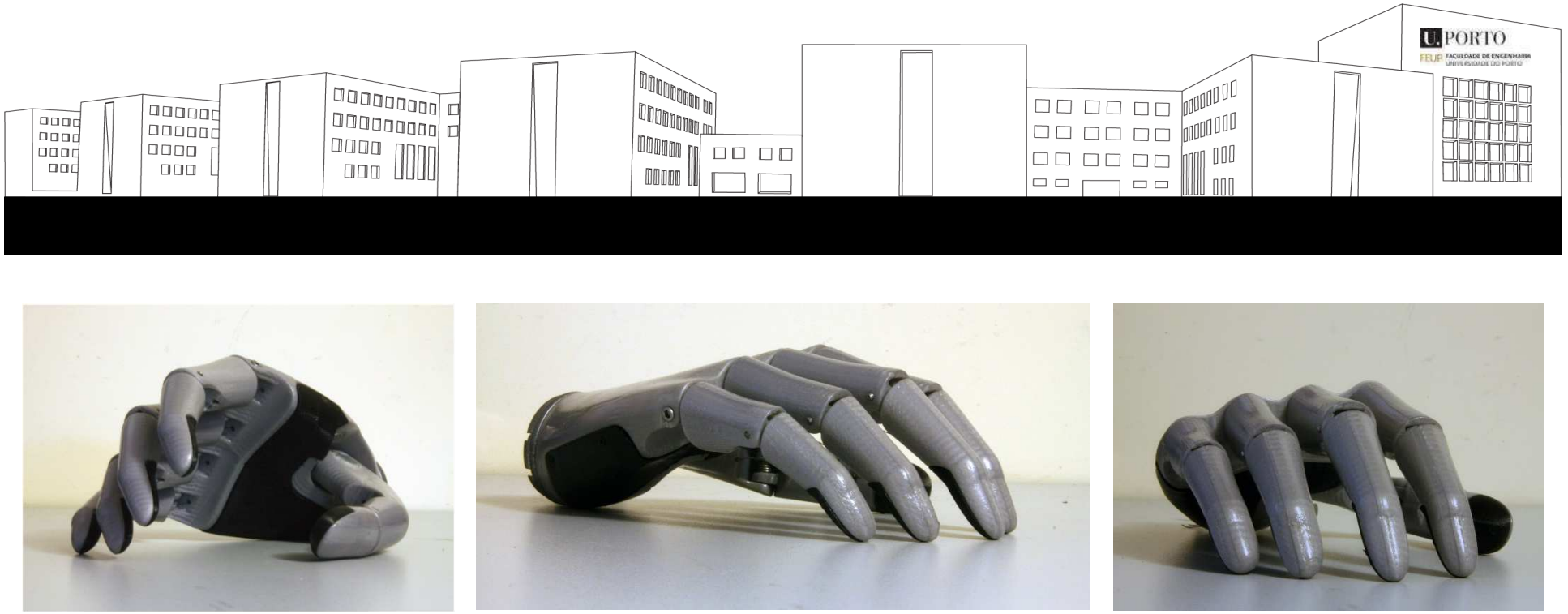


Figura 5 – Prototype.

1. **D. Ferreira, T. Duarte, J.L. Alves & I. Ferreira**, “Development of Low Cost Costumized Hand Prostheses by Additive Manufacturing”, Rapid 2017, Pittsburgh, USA , 8-11 May 2017.

2. **Daniel Ferreira, Teresa P. Duarte, Francisco Xavier de Carvalho, Jorge Lino Alves, Isaac Ferreira**, “Desenvolvimento de Prótese para Membro Superior - Produção de Baixo Custo por Impressão 3D”, Tecnometal 226, pp. 12-21, outubro de 2016.

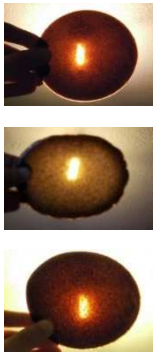
3. **D. Ferreira, T. Duarte, J.L. Alves & I. Ferreira**, “Development of Low Cost Costumized Hand Prostheses by Additive Manufacturing”, 7th Bi-Annual PMI 2016, Ghent, Belgium, 21-23 September 2016.

Reuse Coffee Powder Waste (Vasco Canavarro – Master thesis, November 2016)



V. Canavarro, B. Rangel, J. L. Alves, "Coffee Powder Reused as a Composite Material", MDA 2016 – 1st Inf. Conf. on Materials Design and Applications, 30 June and 1 July, FEUP, 2016.

Vasco Canavarro, Bárbara Rangel, Jorge Lino Alves, "Coffee Powder Reused as a Composite Material", E4S-2016: 2nd Conference: Engineering4Society, Raising Awareness for the Societal Role of Engineering, Leuven-Heverlee, Belgium, September 15 and 16, 2016.



Vasco Canavarro, Daniela Monteiro, Bárbara Rangel, Jorge Lino Alves, "Teaching Industrial Design Based on Real Projects, a PBL Experience in FEUP, Transformimg Waste in Industrial Design Products for Social Vulnerable Groups, EDUCON 2017, 25 - 28 April 2017, Athens, Greece.

Reuse Wood Powder (Inês Monteiro– Master thesis, November 2016)

Costa, Célia; Monteiro, Maria; Rangel, Bárbara; Alves, Fernando, "Industrial and Natural Waste Transformed into Raw Material", Journal of Materials: Design and Applications, accepted for publication, October 2016.
C. Costa, M. Monteiro, Bárbara Rangel, J. L. Alves, "Industrial Waste Transformed into Raw Material", **BEST ORAL PRESENTATION**, MDA 2016 – 1st Int. Conf. on Materials Design and Applications, FEUP, Porto, Portugal, 30 June to 1 July 2016.

Desperdícios Madeireiros
Transformados em Desperdícios de Design | 66-66

PET Recycling (Flávia Freixa – Master thesis, November 2016)

Flávia Freixa, Jorge Lino Alves, Bárbara Rangel, “Design de Novos Produtos com Reciclagem de PET”, CLME 2017, Maputo, Mozambique, 4-8 September 2017

Reusing Fish Nets (Daniela Monteiro – Master thesis, November 2016)

Daniela Monteiro, Bárbara Rangel, Jorge Lino Alves, António Teixeira, “Design as a Vehicle for Using Waste of Fishing Nets and Ropes to Create New Products”, E4S-2016: 2nd Conference: Engineering4Society, Raising Awareness for the Societal Role of Engineering, Leuven-Heverlee, Belgium, September 15 and 16, 2016.

Vasco Canavarro, Daniela Monteiro, Bárbara Rangel, Jorge Lino Alves, “Teaching Industrial Design Based on Real Projects, a PBL Experience in FEUP, Transformimg Waste in Industrial Design Products for Social Vulnerable Groups, EDUCON 2017, 25 - 28 April 2017, Athens, Greece.

Design and prototype of a system for cigarettes butts deposition

- Opportunity for students to work on projects of

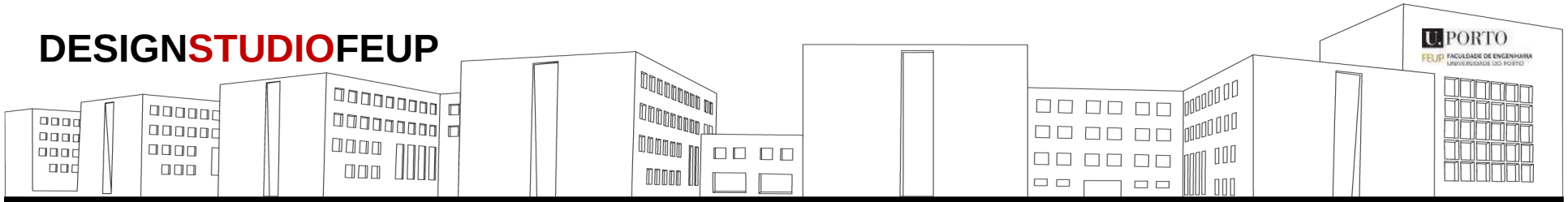
DESIGNSTUDIOFEUP

FEUP 2017
Vasco Canavarro, Bárbara Rangel, Jorge Lino

Development of “Meeting Points” (ITAU, group Trivalor)

FEUP 2017

Daniel Ferreira, Bárbara Rangel, Jorge Lino, Xavier de Carvalho

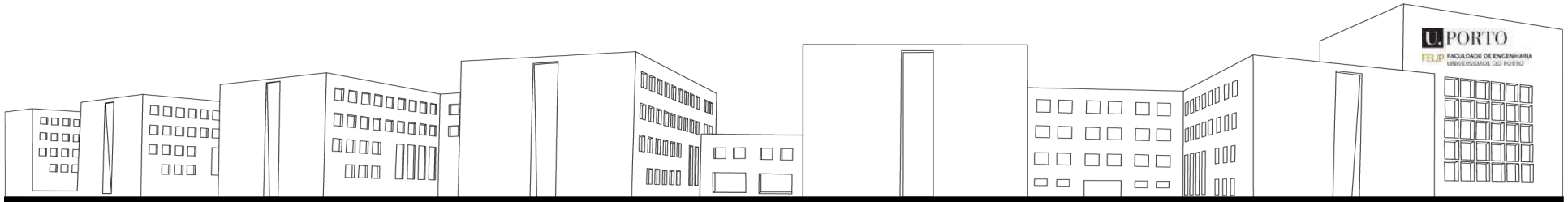


Projects in preparation

PORTUGAL 2020

1. Development of an innovative coffee machine – BICAFÉ

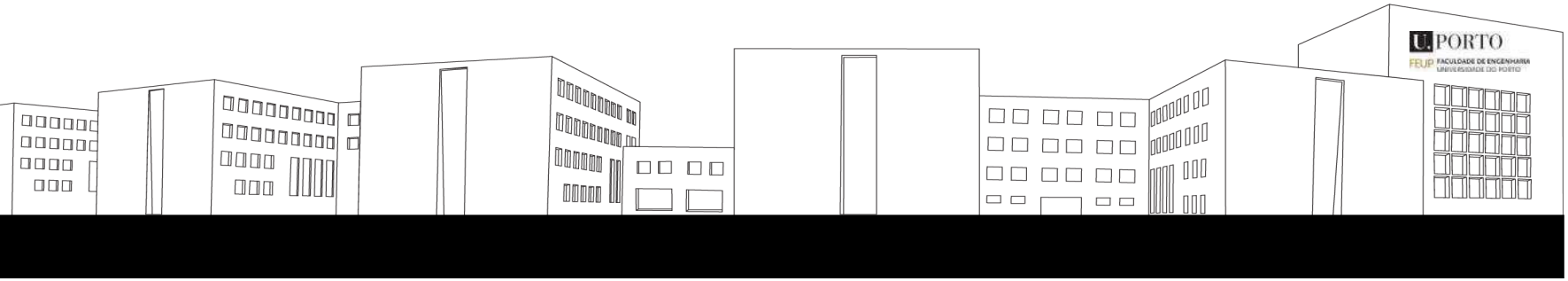
2. Development of a social laboratory to design and manufacturing prototypes for vulnerable groups - C.M. Matosinhos



4. Conclusions

The PBL implementation in MDIP in collaboration with companies created new opportunities for students:

- Students have more contact with “real world”;
- Work on projects in collaboration with companies;
- Opportunity to do professional internship in companies to industrialize the designed products;
- Opportunity to have a scholarship in **DESIGNSTUDIOFEUP** to further develop projects with companies;
- Participate in conferences and publish their work in scientific journals and conferences.


U.PORTO
FEUP FACULDADE DE ENGENHARIA
UNIVERSIDADE DO PORTO

Thank you