



# Linking Industry and Academia in Teaching Pharmaceutical Development and Manufacture: LIAT-Ph *A Knowledge Alliances Project*

## Project Aims and Objectives

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Lifelong  
Learning  
Programme

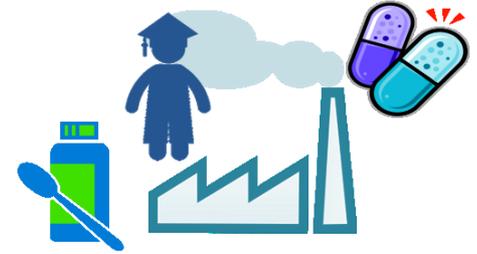
# LIAT-Ph: The Consortium – Full Partners

- Schools/Faculties of Pharmacy
  - Trinity College Dublin, Ireland
  - University of Belgrade, Serbia
  - University of Ljubljana, Slovenia
  - University of Helsinki, Finland
  - Queen’s University Belfast, UK
- Industry
  - Amebis Ltd., Dunshaughlin, Ireland
  - APC Ltd., Dublin, Ireland
  - Brinox inženering d.o.o., Medvode, Slovenia
  - Innopharma Labs Ltd., Dublin, Ireland
  - NIBRT, Dublin, Ireland
  - Pfizer Ireland Pharmaceuticals, Dublin and Cork, Ireland
  - Sigmoid Pharma Ltd., Dublin, Ireland

# LIAT-Ph: Associate Partners

- PIER: Pharmacists in Industry, Education and Regulatory, Ireland
- Medicines and Medical Devices Agency of Serbia
- Slovenian Drug Agency
- Galenika ad, Serbia
- Hemofarm ad, Serbia
- KRKA d.d., Slovenia
- European Pharmaceutical Students Association (EPSA)

# Why does the consortium wish to undertake the project?



- Industrial pharmacists should be equipped to respond to the challenges of the rapidly changing environment in which they work.
- They should be capable of working as part of a **multi-disciplinary team** comprising pharmacists, chemists and engineers, as companies seek an increasingly more integrated approach to the product development cycle.
- The **necessity for partnership and closer collaboration between academia and industry has been recognised** on the national, as well as wider, regional and EU level.

# Pharmine project

**Pharmine**  
Pharmacy Education in Europe

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## Pharmine

[Mission statement](#)

We are pleased to announce that the PHARMINE project has been funded with support from the European Commission, Lifelong Learning Programme of the European Union:

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In the XXI century EU, pharmacists will play an increasingly important role as partners in the efficient use of the health care resources of the EU (community and hospital pharmacists). They will also be major players in the development of the EU pharmaceutical industry (industrial pharmacists). Whilst abiding by the recommendations for the duration and course content for EU pharmacy education and training given in the directive 2005/36/EC on the recognition of professional qualifications, PHARMINE will examine the opportunities for the introduction of the principles of the Bologna declaration into pharmacy education and training with the aim of tuning the latter to the future needs in the three areas of pharmaceutical expertise: community, hospital and industrial pharmacy.

## Mission Statement

The PHARMINE consortium consists of four universities (Brussels, Nancy, London and Lisbon) that are members of the European Association of Faculties of Pharmacy and EU partner associations representing community (Pharmaceutical Group of the European Union), hospital (European Association of Hospital

*It will develop a bachelor/master/doctorate system for pharmacy education and training taking into account the need for basic pharmaceutical competences (and mutual recognition of pharmacy qualifications) and the specialization needed in the three main areas of pharmaceutical expertise.*

- The Pharmine project: identified the competencies required on Day 1 of registration for pharmacists entering the pharmaceutical industry.
- It is timely therefore that we review the pharmacy curricula in the participant countries to determine:
  - (1) what competencies are currently being achieved by graduate pharmacists and
  - (2) where deficiencies exist in the current undergraduate curricula.



The academic and industrial partners will work together to identify and **introduce teaching and learning strategies** whereby the required competencies can be met by pharmacy graduates entering the industry.

- Pharmine project - a broad Advanced Masters in Industrial Pharmacy-type course was not appropriate for pharmacists working in the pharmaceutical Industry
- Specialist post-registration courses appropriate to specific roles in the industry are required.
- The consortium has specific expertise in the area of bio/pharmaceutical product development and this is the part of the drug product life cycle on which we will focus.
- *PhD students* pursuing PhDs in pharmaceuticals and pharmaceutical technology are ideally positioned to enter the pharmaceutical industry in a variety of roles. The consortium will develop courses and structure training appropriate for such students.
- As professionals, *pharmacists in industry* are obliged to undertake **continuing professional development (CPD)**. The consortium is well placed to identify CPD needs of the industrial pharmacist.
- By considering the competencies required of:
  - the “Day 1” pharmacist, the PhD student and the pharmacist in practicewe can identify and develop courses which are appropriate to the lifelong learning needs of the practising pharmacist.

## Other project drivers

- PEARs (Pharmacy Education and Accreditation Reviews report – emphasis on experiential learning
- Tempus PQPharm project - modernisation of the Postgraduate Qualification in Pharmacy in Serbia
- Obligation on pharmacists in industry to undertake continuing professional development (CPD)

# Project Objectives



## Objective 1

- Explore the learning needs of pharmacy students, at the undergraduate and postgraduate level and practising pharmacists,
  - in the different (participant) countries,
  - in relation to the competencies in industrial pharmacy which have been identified through the Pharmine project and
  - in relation to any additional competencies identified by the industrial and academic partners in the context of current developments in the bio/pharmaceutical sector.

## Objective 2

- Work together (academia and industry from all participant countries) on:
  - the development of curricula (content and teaching/learning methods and educational materials)
  - that will ensure the required competencies for industrial pharmacist are covered at an appropriate level.
  - Focus will be placed on enhancing student engagement, developing problem solving skills and encouraging innovation and entrepreneurial thinking.
  - Academic staff up-skilling will form part of the curriculum update and delivery process.

## Objective 3

- Develop and deliver joint modules,
  - as part of a structured PhD programme
  - and/or continuing professional development courses
  - for industrial pharmacists and other professionals working in the bio/pharmaceutical industry
  - with a focus on bio/pharmaceutical product development and manufacture.

# Meeting the Objectives

- WP1: Project Management
- WP2: Pharmacy Undergraduate Curricula Review
- WP3: Pharmacy Undergraduate Teaching and Learning Strategy Review and Development
- WP4: Pharmacy Postgraduate – Providing Skills for the Future Industrial Pharmacist
- WP5: Continuing Professional Development for the Industrial Pharmacist
- WP6: Conferences on a Competency Based Curriculum for Industrial Pharmacy
- WP7: Quality Assurance
- WP8: Dissemination
- WP9: Exploitation of Results

## Some Key Points to Consider

- Much of the work will be done through Working Groups to be established – more on this later
- Innovation and entrepreneurial as well as technical skills/competencies to be considered
- Sharing of existing teaching material and resources to be considered
- (New) modes of delivery to be investigated – e-learning, podcasts etc.