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<b>Founded (year)</b>	2010
<b>Type of Laboratory</b>	Contract research and development (CRO); cytotoxic (≤OEL4); BSL-1; BSL-2; fee-for-service business model; 2-4 weeks start up time
<b>Areas of Activity</b>	Analytical characterisation; pre-formulation screening; formulation development; freeze drying cycle development; lyophilisation process and scale-up; pre-clinical batch manufacturing; technology transfer
<b>Biological Patents</b>	Several patents in freeze drying and formulation
<b>External Collaborations</b>	<ul style="list-style-type: none"><li>Network for seamless development from pre-clinic to fill/finish and market.</li><li>Formulation specialist for DS and DP CMOs worldwide.</li><li>Process specialist for scalable drug products ensuring manufacturability.</li><li>Cross-country competence hub with business partners in Asia.</li><li>Credited laboratory for Wyatt Technology in Europe.</li></ul>
<b>Request for Further Collaborations</b>	<ul style="list-style-type: none"><li>Small biotechnology/mid-size pharma companies, large top players in pharma/biotechnology.</li><li>From DSP development to early and late drug product phases up to life cycle management.</li><li>Customised solutions for challenges in formulation, analysis or process and tailored solutions for unmet needs not yet supported by the industry.</li></ul>

ProJect Pharmaceutics is a leading independent European CRO specialised in formulation and manufacturing process development for injectables: biologics (rec. proteins, antibodies, fusion proteins), peptides, ADCs, cytotoxics, small molecules, generics, viral therapeutics, ATMPs, VLPs and other nanoparticulate drug delivery systems. We apply innovative, quality-by-design based, rational concepts of pharmaceutical development according to ICHQ8 and other guidelines. We support our global customers in developing a consistently high-quality pharmaceutical product that is transferable, scalable and manufacturable under GMP conditions. ProJect Pharmaceutics is managed by experts with >30 years of experience in the pharmaceutical industry. In about 850 m<sup>2</sup> we operate special laboratories for biologics, cytotoxics and a BSL-2 unit, equipped with dedicated industrial HOF pilot freeze dryers.

## Protein formulation

- › Predictive formulation analytics: a QbD-based high-throughput approach for accelerated development
- › Pre-formulation, early state & late phase formulation
- › Liquid & lyophilised formulation (DoE-based)

## High concentration protein formulation

- › Low viscosity formulation for s.c. application
- › UF/DF process development
- › Syringeability evaluation

## Cytotoxic small molecules

A deep understanding of the challenges when processing highly potent drugs, such as limited solubility in water and rapid degradation, paired with long-lasting experience and comprehensive know-how of lyophilisation from various organic solvents enables us to provide specific solutions for high potency & cytotoxic drugs.

## Antibody-drug conjugates (ADCs)

- › Predictive, high-throughput formulation development
- › High-end freeze-drying technology

By combining protein formulation and process know-how with cytotoxic drug expertise the company holds unique assets to develop ADCs. On top we offer complementary formulation and process development of intermediate antibody & linker-payload bulk.

# PROJECT PHARMACEUTICS



## Peptide formulation

- › Formulation and lyophilisation cycle development

## Innovative liposome technology

- › High encapsulation efficiency
- › Hydrophilic & lipophilic APIs
- › GMP-compatible manufacturability with standard equipment

## Viral therapeutics

- › Lyophilised formulation and cycle development

## Downstream process

- › Smart optimisation of UF/DF & purification steps
- › Targeting a common BDS and DP formulation

## Freeze drying

- › In vials, dual chamber systems, syringes, cartridges, bulk trays or bags, containers in nest&tub configuration
- › Out of organic solvents
- › Rational cycle development (robust, collapse-safe, cost & time efficient, tailored to the formulation)
- › Bulk lyophilisation (solid or powder)
- › SEM structural analysis of lyo cake
- › Time lapse video & IR thermal camera monitoring
- › Aseptic pre-clinical batch manufacturing
- › Robustness & design space evaluation
- › Smooth technology transfer to GMP

## Process development and manufacturing

- › Container closure system compatibility
- › Forced stress, in-use & accelerated stability studies
- › Detergent & excipient quantification
- › Sterile filtration study
- › Manufacturability assessment
- › Fill&finish process mock-up
- › Aseptic pre-clinical batch manufacturing

## Fill&finish

As state-of-the-art development experts we are teamed up with state-of-the-art contract manufacturing experts to provide high-quality parenterals from pre-clinical to clinical and commercial scale.

