



**Virus-like particle purification using
modelling approaches**

Dr. Thiemo Huuk, GoSilico GmbH

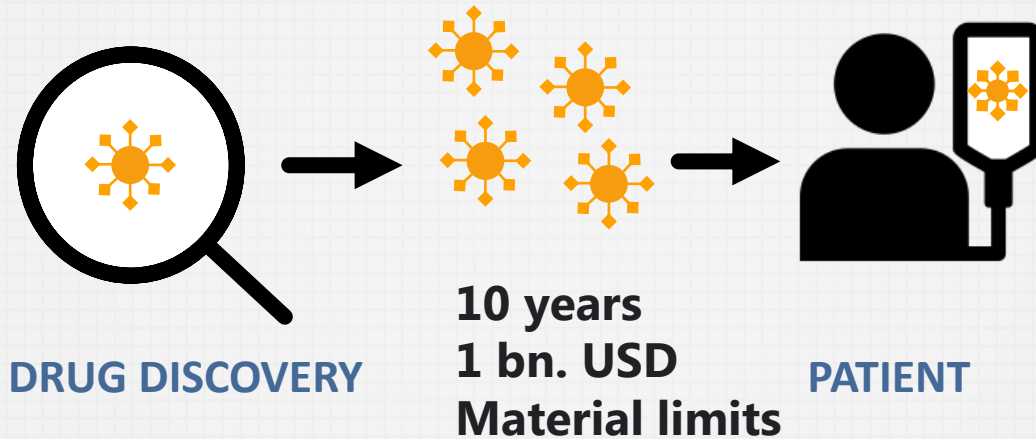
STOP EXPERIMENTING. **GO** SILICO.

Cevec Pharmaceuticals GmbH

- **Based in Cologne, Germany**
- **30 employees**
- **19 employees in research and development**
- **Center of expertise for the production of biopharmaceuticals using a unique human cell-based expression system (CAP® Technology)**
- **CEVEC commercializes the CAP® Technology as platform for the production of**
 - recombinant proteins and viral gene therapy vectors (primary focus)
 - vaccines and exosomes (secondary focus)

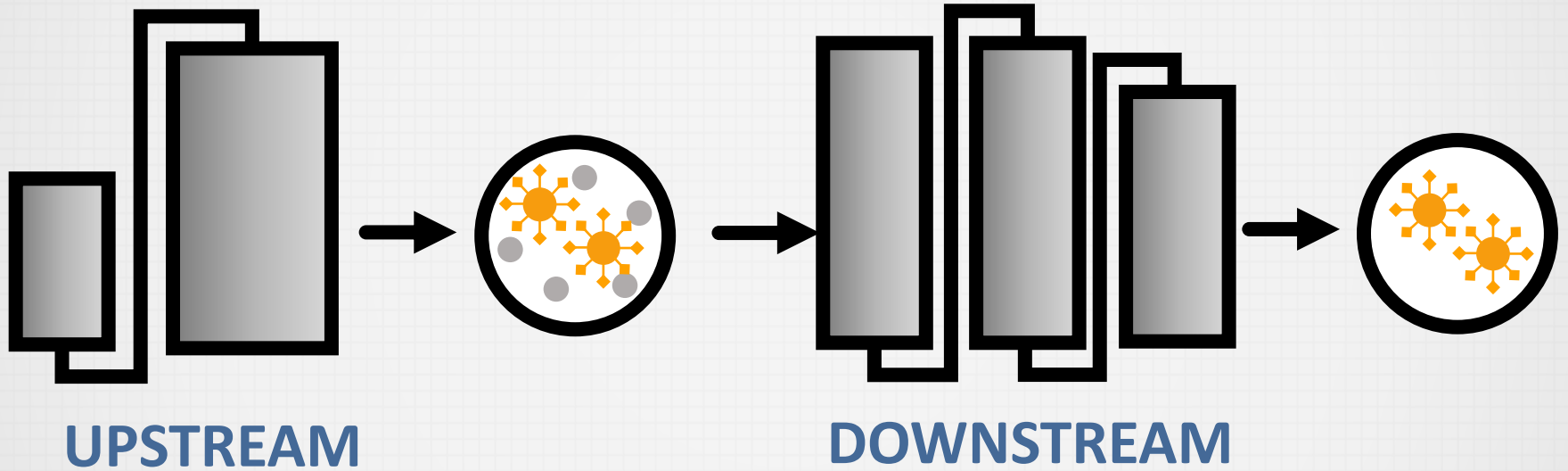


VLP Process Development

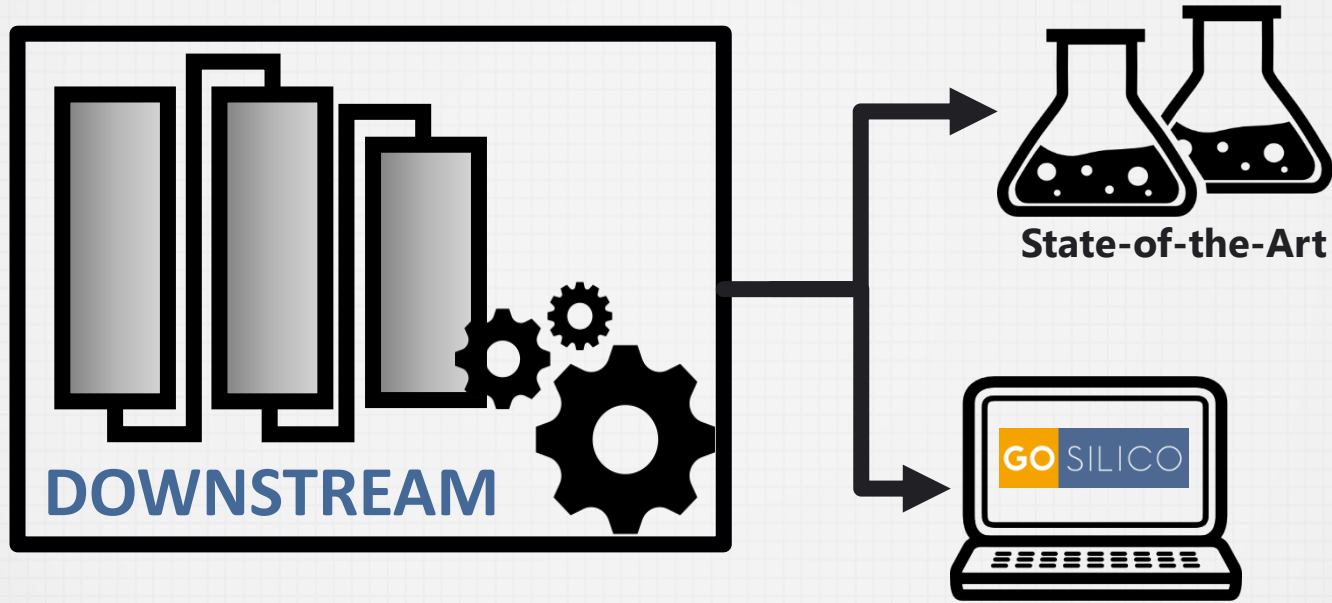


- Vaccines
- Personalized cancer treatment/ vaccines

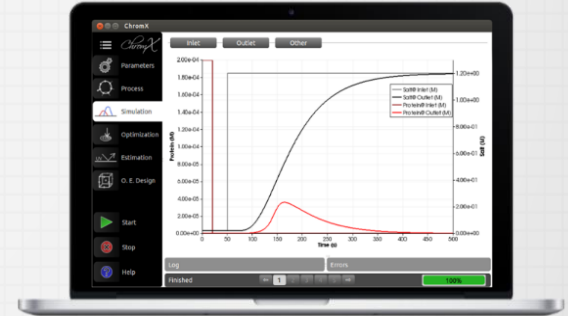
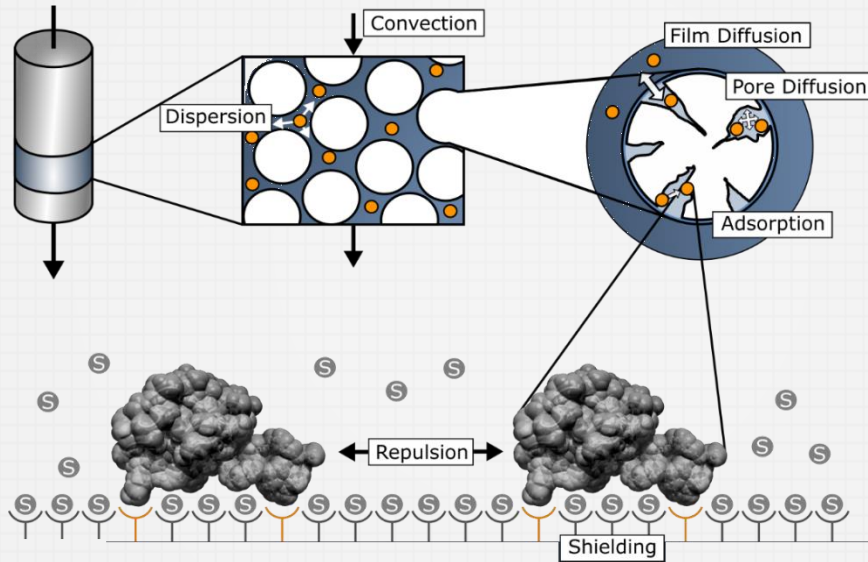
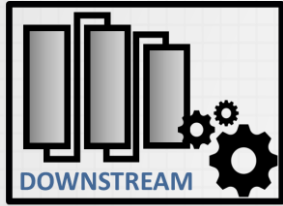
VLP Purification Process Development



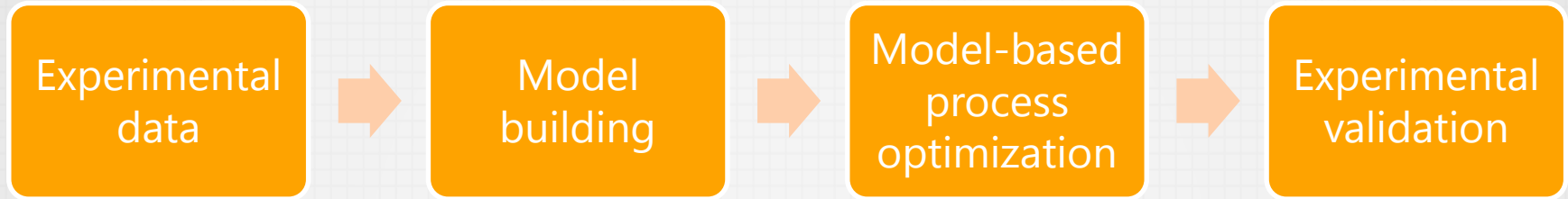
VLP Process Development



Solution of GoSilico GmbH



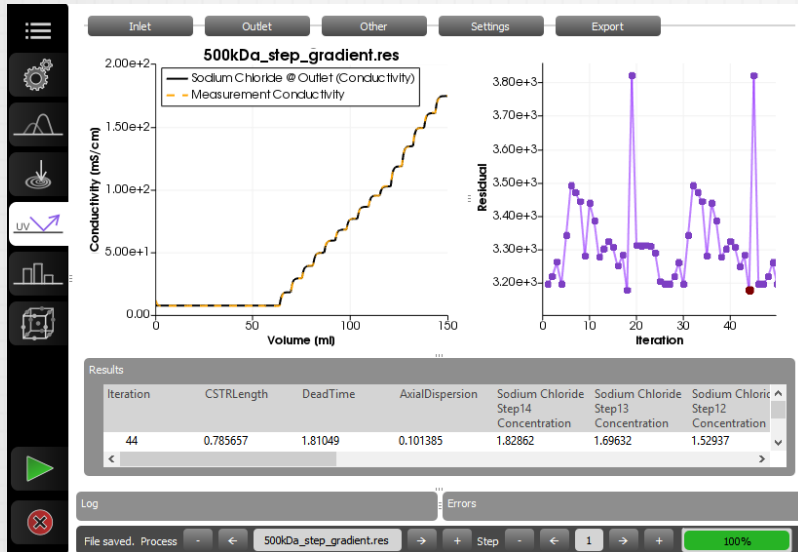
PERMIDES Project



1. Four sets of experimental data for model calibration
2. Adapting the equations for adsorption/desorption to VLPs & estimating the model parameters
3. Using the model to optimize the downstream process with respect to purity, yield, and productivity
4. Experimental validation of the *in silico* optimum

Conclusion

Preliminary results



Expected outcomes

Costs Reduction

Time Reduction

Less Sample Material

Mechanistic understanding



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