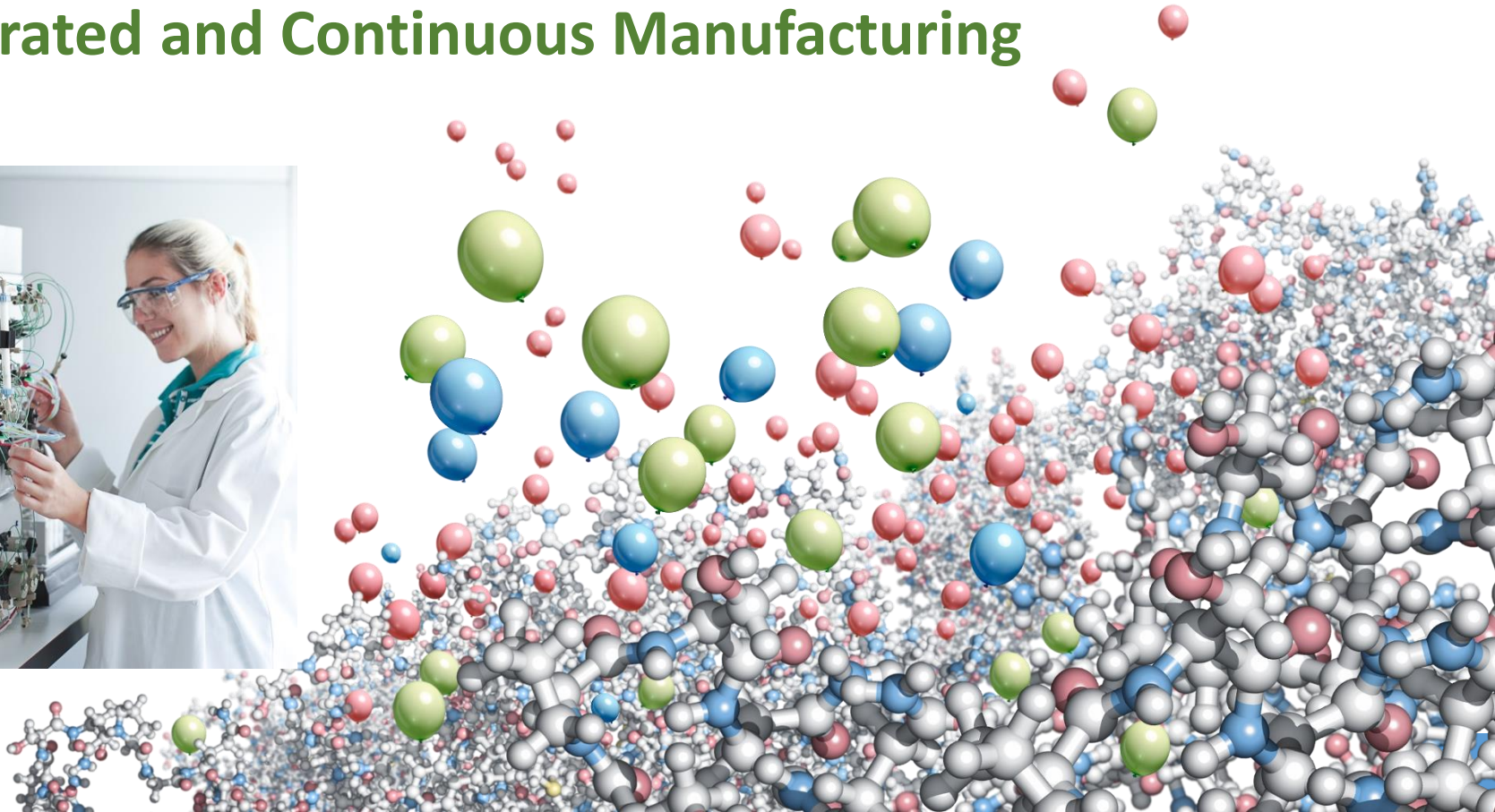




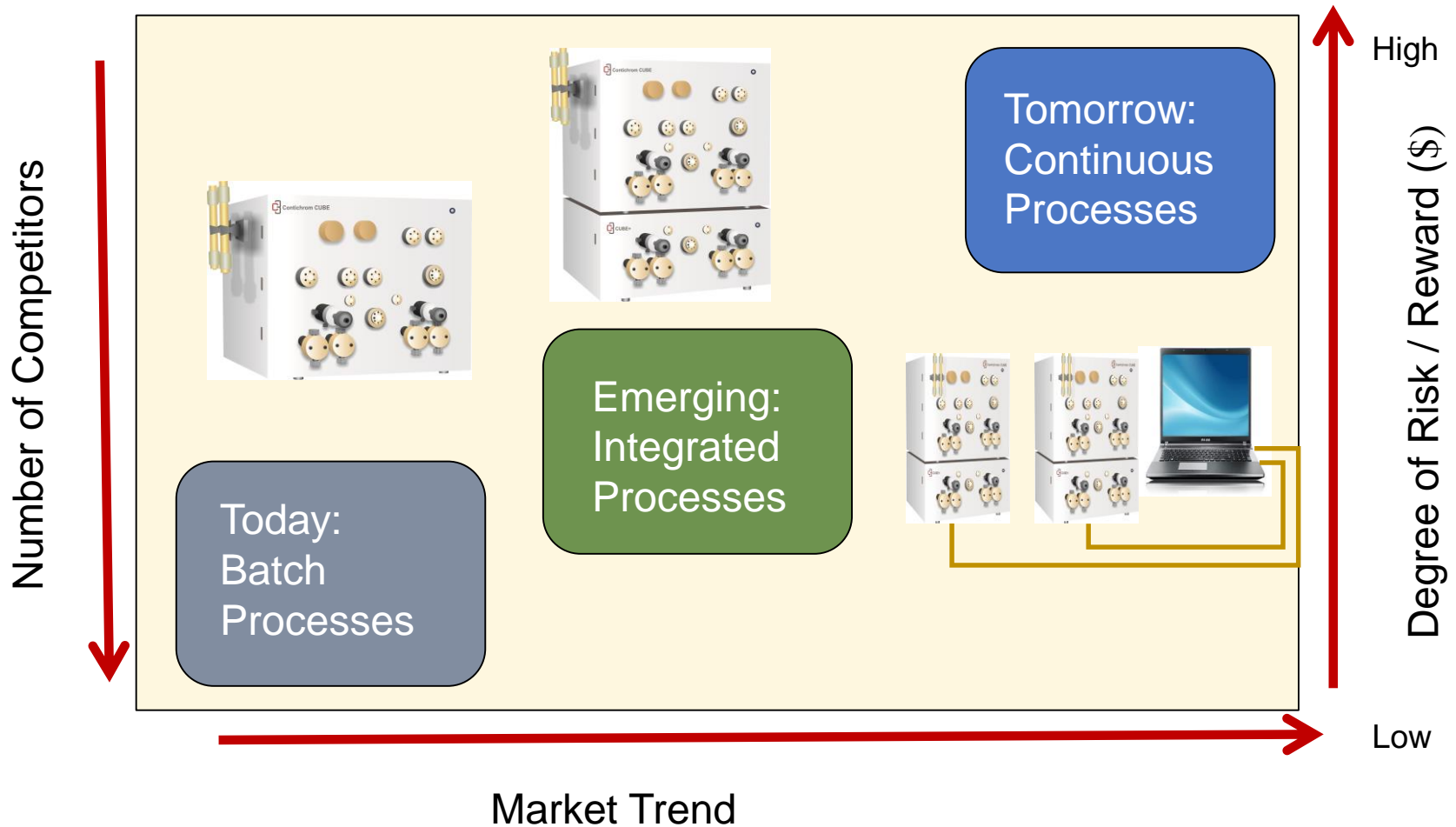
# Contichrom<sup>®</sup> Twin-column FPLC Chromatography

## Integrated and Continuous Manufacturing

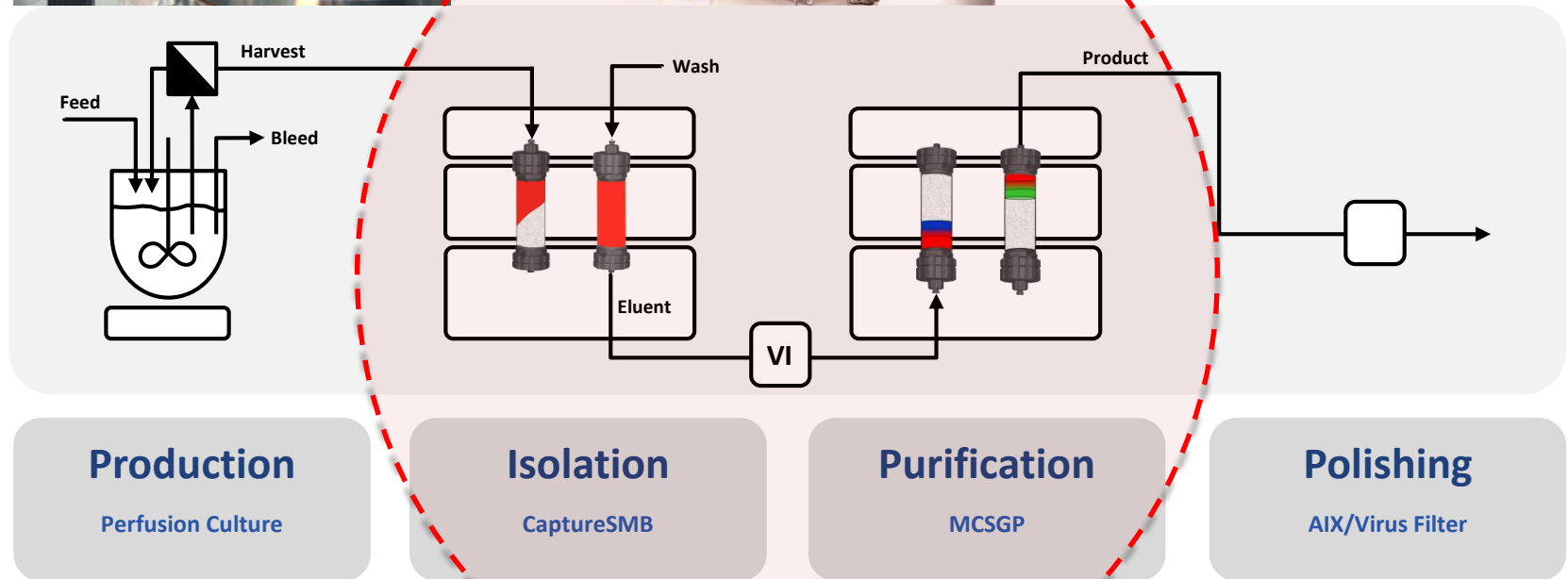


# Trends: to continuous manufacturing

Continuous = no defacto market leaders, high interest, high risk & high reward



# Contichrom® for Continuous Biomanufacturing



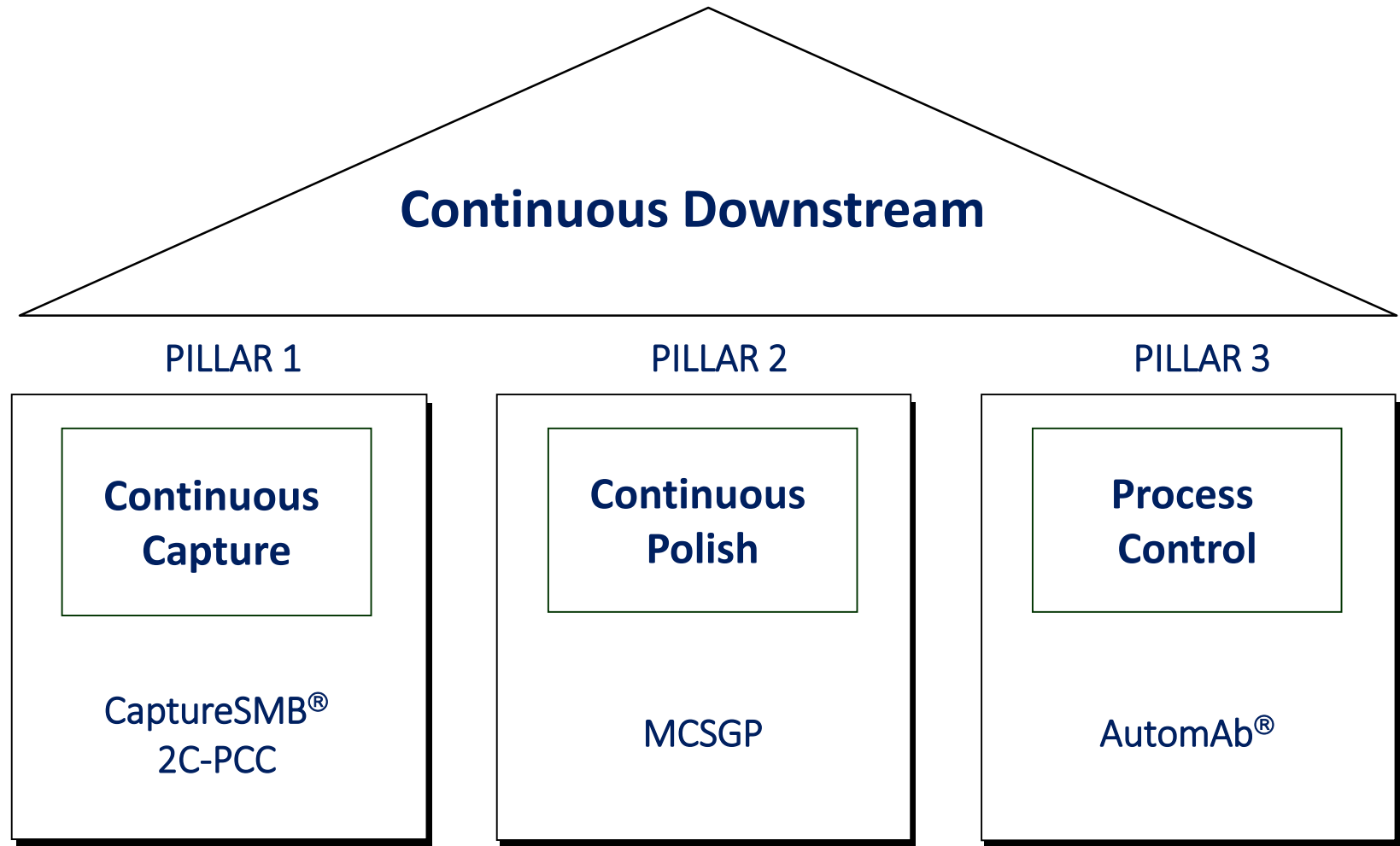
Cell Factory  
For production of  
therapeutic protein

Biochromatography  
→ rate limiting and most expensive

Final cleaning  
and drug formulation



# The Three Pillars of Continuous Chromatography



New Regulatory Structure Based on Three Pillars

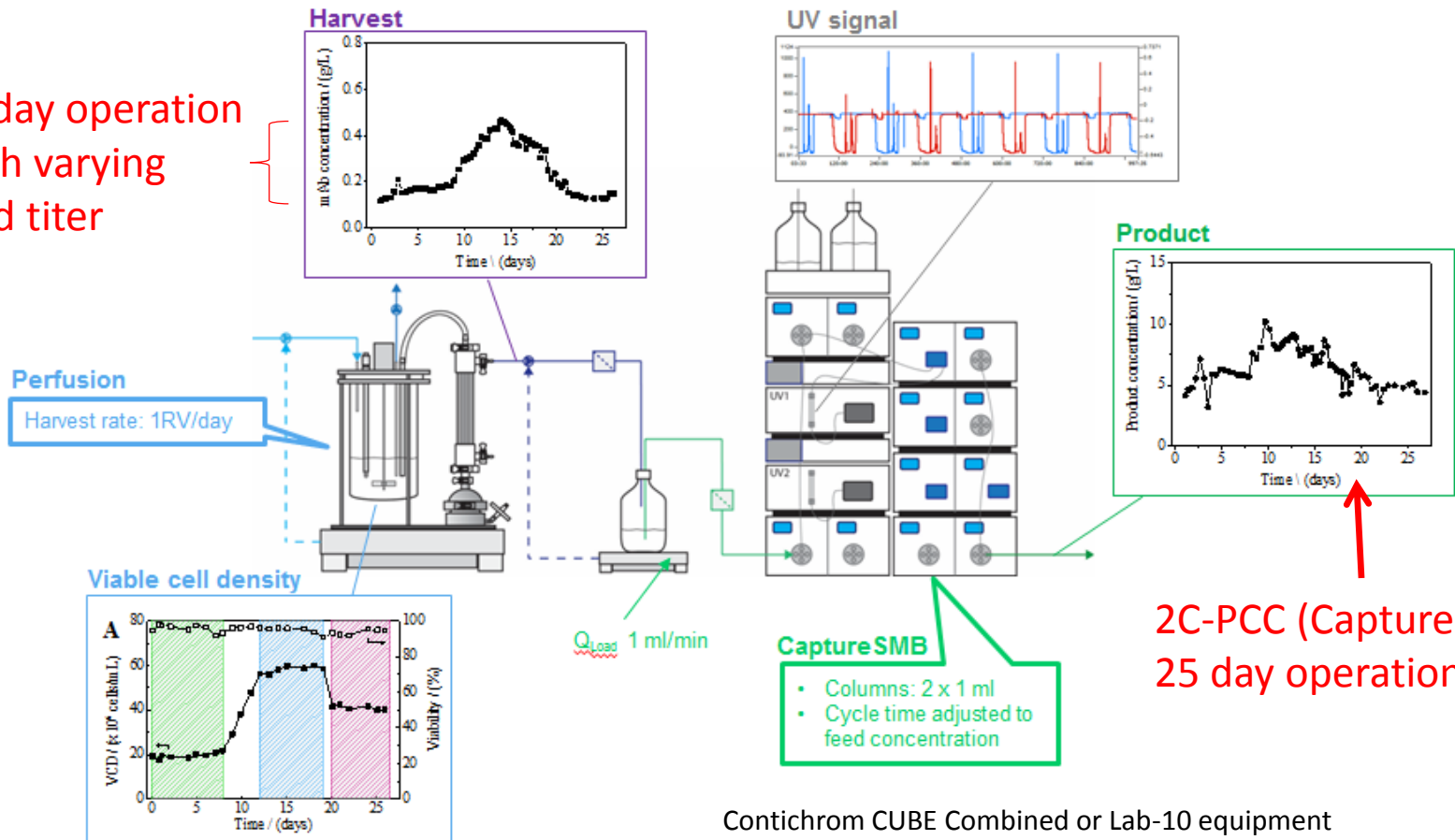


# 2C-PCC suited for long-term continuous operation

ETH zürich

## USP & DSP Integrated

25 day operation  
With varying  
feed titer



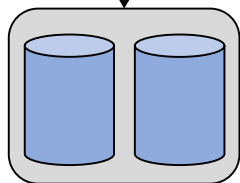
Institute for Chemical and Bioengineering  
Morbidelli Group

From: M. Morbidelli, Nov 2015, Integrated Continuous  
Manufacturing Conference, Berkeley, CA

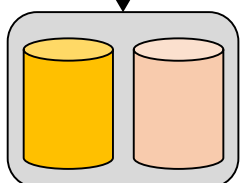
# Contichrom® for Integrated Manufacturing

Clarified  
harvest

Protein A CaptureSMB  
/  
Protein A Flip-Flop



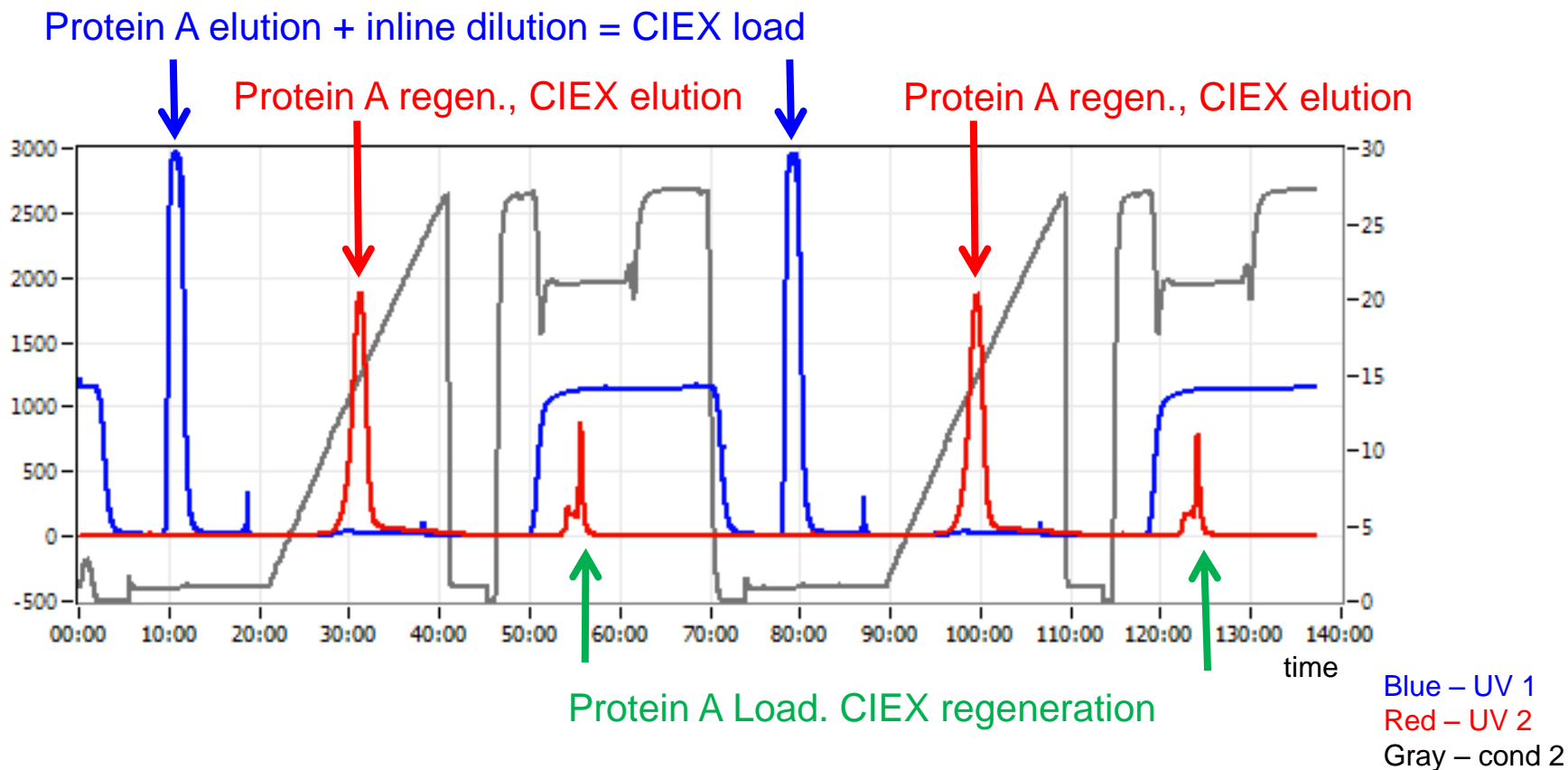
Integrated  
CIEX/ AIEX



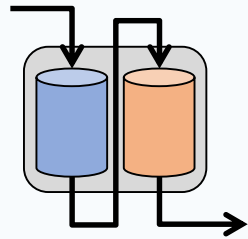
Combining two CUBE system modules allows operating a downstream chromatographic purification train fully continuously. The system can be directly docked to an upstream perfusion reactor and serve an integrated USP/DSP continuous manufacturing process development tool with DSP under control of the ChromIQ operating software.

# Contichrom® for Integrated Manufacturing

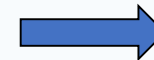
- Combining two purification steps in one continuous process



# Combining CUBE units for fully continuous manufacturing



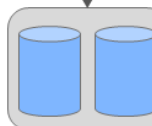
- Integrated batch,
- cyclic and continuous processes for single process steps



Fully continuous integrated process

Clarified harvest

Protein A CaptureSMB

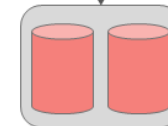


Pool surge vessel

MCSGP  
CIEX

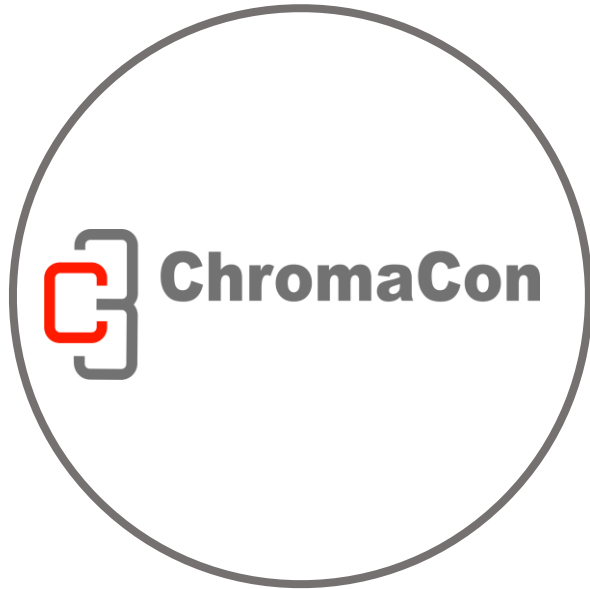


Tandem  
AIEX  
FT mode





# Contact Info



[www.chromacon.com](http://www.chromacon.com)



+41-(0)-44 445 2010



[info@chromacon.com](mailto:info@chromacon.com)

