# SECURECELL: Empowering Biopharma for Full Bioprocess Development Automation

True process change for unprecedented productivity in biopharma development

Seamlessly integrate fully automated 24/7 sampling into bioprocessing environments to "close the loop" between analytics and process units

Numera® is an invaluable tool when process development needs more automation to support the ever-growing demand of parallelization and high throughput. It allows automated sampling and preparation of low-volume samples from up to 16 bioreactors around the clock. Samples can be automatically processed, retained at chilled conditions, or directly injected into state-of-the-art bioprocess analyzers. The processing may include steps such as dilution, reagent addition, and filtration.

The automation of those steps not only reduces the manual workload around sampling to free operators for more
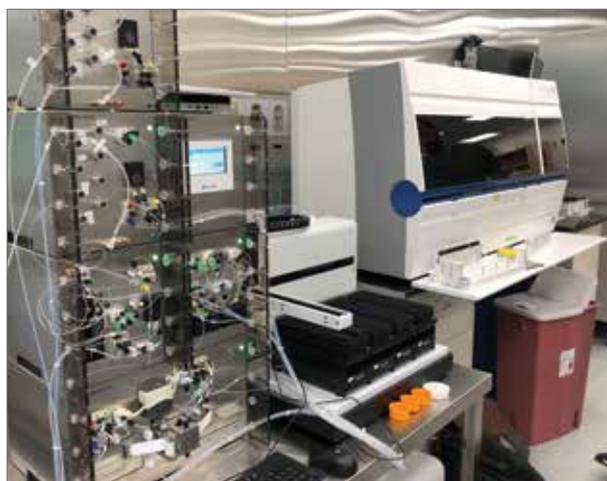
Numera setup at a customer site in use

important tasks, but it also eliminates operator-to-operator variations, enhancing precision and accuracy of at-line analytics. The cell removal procedure via a unique tangential flow tape filtration prevents cross-contamination and allows non-clogging, low-maintenance operation.

Besides its hardware features, the success of Numera undeniably lies in the powerful and proven software, Lucullus®. Unlike other automated sampling systems where the overarching synchronization and alignment of discrete data with online processes presents a challenge, the combination with Lucullus allows an out-of-the-box optimization of all activities around sampling and data alignment. By using predefined and customized sampling schedules, Lucullus coordinates the interaction between bioreactor, Numera, and analytical devices.

The analytical data is automatically fed back into Lucullus and assigned to the correct process and time. Thus, Numera and Lucullus enable monitoring and control of process parameters (e.g., CPPs) without manual interaction, and they open doors for novel PAT applications. Both products in unison enable the full automation of the entire workflow covering sampling, measurement, monitoring, and control from one single provider.

Full control of your bioprocess, anywhere and anytime

Lucullus® is the state-of-the-art software solution for efficient digitalization of the total bioprocess environment with paper-less documentation. The combination of an unmatched vendor-independent device connectivity and integrated, optimized workflows that were co-developed over
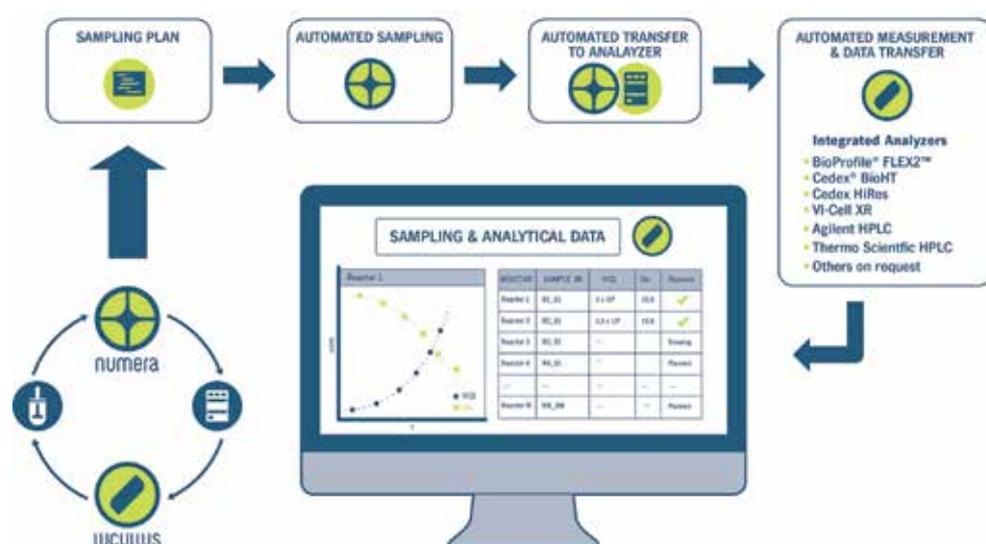
The smart sampling solution

many years with big pharma make Lucullus the perfect tool for the current digital revolution in bioprocessing lab spaces.

Lucullus PIMS aligns and stores all data from disparate sources of the bioprocess environment in one central database that is accessible in various ways, anytime and everywhere. Typical tedious data integration procedures are eliminated, and the standardized alignment of all data in complex environments is achieved with ease. Lucullus is the only available tool that provides a) off-the-shelf integration of media and raw material information through media kitchen digitization, b) an easy-to-use powerful

SCADA platform for scalable parallel planning and execution of experiments independent of the process unit's hardware and c) sample management for timely feedback and alignment of at-line analytics.

This comprehensive toolset can be applied across scales and along typical bioprocess chains and unit operations to interlink all information with full traceability. It all results in streamlined processes and improved collaboration from first planning of experiments to data analytics which can be incorporated into configurable, automated batch reports and visualizations.

As a central data hub, Lucullus helps to avoid unnecessary interfaces and manual interactions between a patchwork of partial solutions and hardware-specific software. The most valuable output of bioprocesses are the experimental data that need to be securely stored and available as complete data sets for maximum insights and ensured data integrity. Based on the robust Lucullus platform and a proven decades-long record in this field, Securecell is the preferred software partner

to tie together all the loose ends in quickly evolving, diverse high-tech lab spaces for efficient, automated workflows and accelerated bioprocess development.

Securecell is a high-tech life science company pioneering the world's next solutions for biotech applications. We create ingenious technologies to radically improve bioprocess development towards total automation. Headquartered in Zurich, Switzerland, we have been delivering transformative solutions in bioprocess automation for over 25 years. The world's best and brightest join forces on our team to create an irresistible drive for reimagining and redefining the status quo. We are innovators by nature and will not stop until our visions are deployed and delivered to our customers. ∎

Contact the industry leader in fully automated and integrated bioprocess development to explore your solution.

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securecell

Lucullus at work

FUNCTIONALITY TO ACCELERATE BIOPROCESS DEVELOPMENT

Detailed process design
- process control step chains
- reactor utilization schedules
- sampling and analytical plans
- media selection

Analysis and batch reporting
- efficient database searches
- extensive visualization
- automated evaluations
- exporting and one-click batch reporting

Planning

Preparation

Evaluation
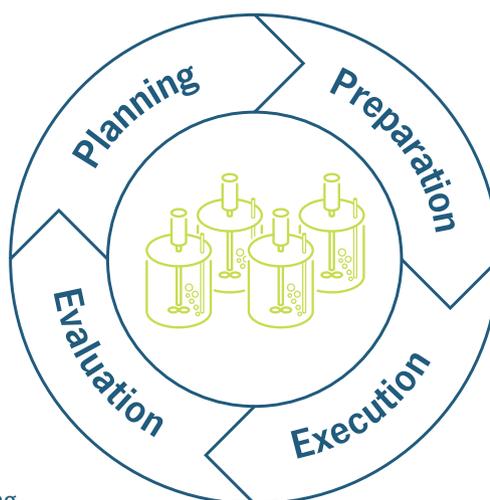
Execution

Digitally assisted process preparation
- media recipe database
- raw material management
- user guided media lot creation
- barcode labelling of materials and lots

Real-time process execution
- execution of designed processes
- centralized monitoring and control across all systems
- user interactions and event notifications
- parallelization and process comparison