

# Lonza Digitalizes Cell and Gene Therapy Manufacturing with MODA-ES

Through a phased deployment across four sites, Lonza replaced paper-based processes with MODA-ES' digital workflows that improved efficiency, visibility, and manufacturing capacity.

Lonza is a global contract development and manufacturing organization (CDMO) that supports the production of biopharmaceuticals, including cell and gene therapies (CGTs). As its CGT operations expanded across four manufacturing sites, the company faced increasing complexity in tracking patient-specific materials throughout the manufacturing process.

Unlike traditional pharmaceutical manufacturing, CGT production requires every patient or donor sample to be individually tracked throughout the manufacturing process and returned to the correct patient. This creates significant logistical and operational complexity, requiring strict chain of custody, chain of identity, and traceability controls across manufacturing, quality, and supply chain activities.

To support its growing operations and improve efficiency, Lonza needed to replace paper-based processes with digital workflows that could improve traceability, streamline manufacturing activities, keep patient data safe, and provide greater visibility across its global CGT manufacturing network.

Using MODA-ES can reduce data entry and review times by

**50-70%**

## Business Challenges

For Lonza, maintaining chain of custody and traceability from sample receipt through product delivery was essential, yet many of its processes still relied on paper records, spreadsheets, emails, and phone calls.

## Business Challenges

Manual data entry and paper-based documentation increased the risk of transcription errors, omissions, and delays. Lonza's staff was required to manually record manufacturing activities, manage physical records, coordinate schedules, and communicate status updates across a network of stakeholders that included

patients, hospitals, sponsors, couriers, and manufacturing teams. Additionally, managing sensitive patient information and maintaining accurate records created significant administrative overhead and potential compliance challenges.

As manufacturing demand increased, Lonza needed a more scalable and efficient approach that could support complex CGT workflows, while still maintaining data integrity and operational control.

## Why Lonza Chose MODA

Lonza selected the MODA-ES (Execution System) platform to support a phased digitalization strategy across its CGT manufacturing network. The initial phase focused on digitizing chain of custody, chain of identity, and traceability processes at two facilities before expanding to full manufacturing digitalization and electronic batch recording across four sites.



The platform's configurable workflows enabled Lonza to model manufacturing processes, materials, schedules, and operational requirements across its facilities. With support from MODA's implementation team for configuration, validation, and deployment, its sites successfully transitioned from paper-based operations to digital track & trace workflows.

Using MODA-ES can  
shrink production  
hours on the  
manufacturing floor

by **10-20%**

## Results

### Expanded Manufacturing Capacity

Prior to implementation, paper-based tracking limited facilities to processing a single batch in a clean room. By implementing track & trace methods and a digital chain of custody, Lonza enabled multiple batches to be processed simultaneously, increasing utilization and manufacturing capacity without additional overhead.

### Eliminated Paper-Based Processes

The implementation of electronic record keeping eliminated paper-based documentation at Lonza's CGT sites, with data now captured digitally through barcode scanners, electronic records, e-signatures, and on-demand label printing.

Removing paper from the manufacturing floor reduced transcription errors and manual documentation tasks, as well as significantly decreased the risk of omissions. The move to digital records also decreased batch rejections associated with documentation issues, allowing technicians to focus more of their time on higher priority manufacturing activities rather than paperwork.

### Improved Visibility and Stakeholder Coordination

MODA-ES provided near-real-time visibility into manufacturing operations, giving site managers centralized oversight and enabling timely updates across the supply chain.

The improved visibility simplified scheduling, pickup coordination, and delivery planning, helping reduce logistical delays within the highly time-sensitive CGT manufacturing environment.

### Reduced Production Time and Costs

By streamlining workflows and reducing manual effort, Lonza improved operational efficiency while lowering production costs. The combination of increased capacity, digital traceability, and streamlined workflows positioned Lonza to support future growth while maintaining operational excellence across its CGT network.

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