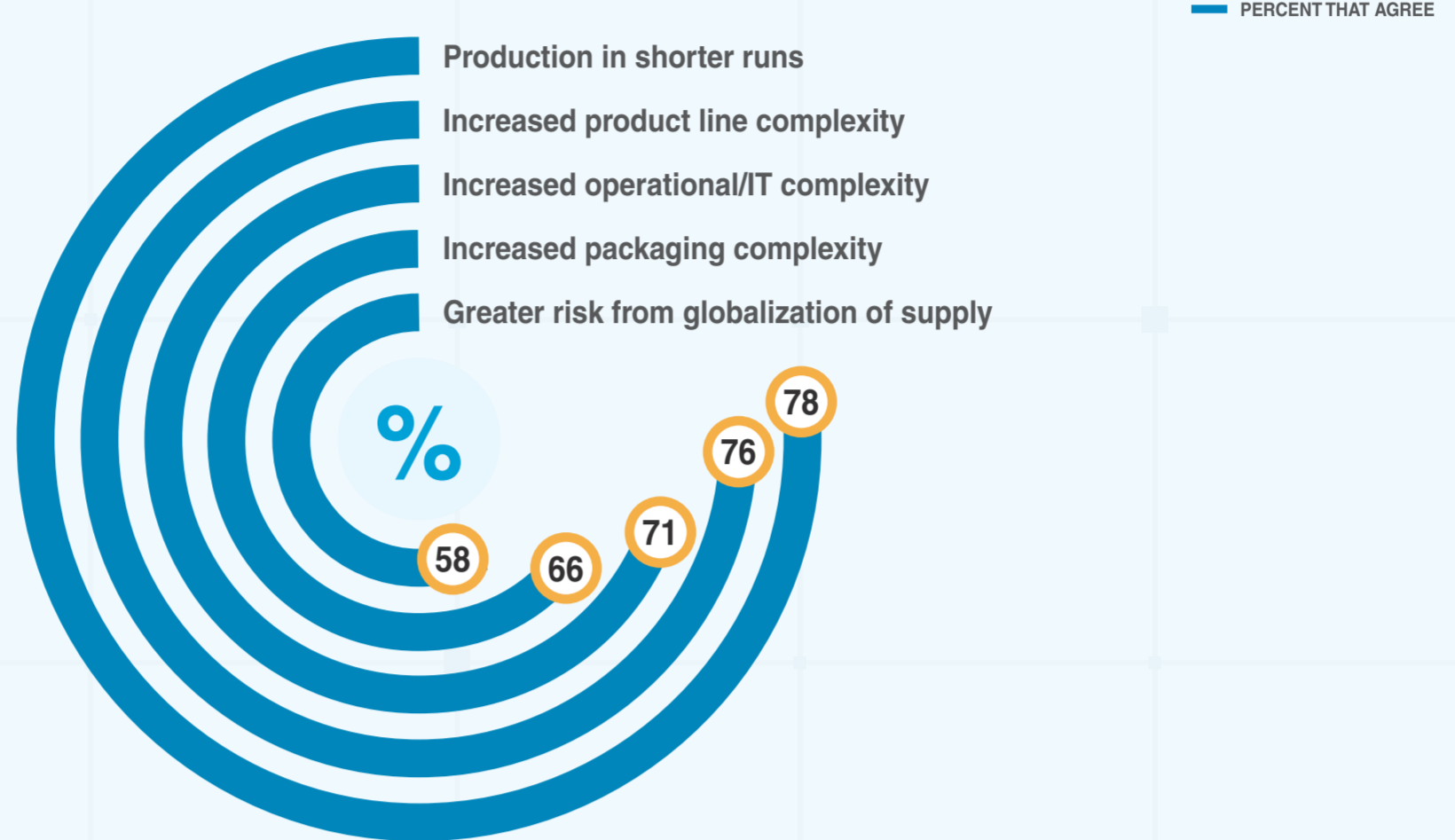




# COLLABORATION CAPABILITY IS A TOP PRIORITY FOR PHARMACEUTICAL SUPPLY CHAINS

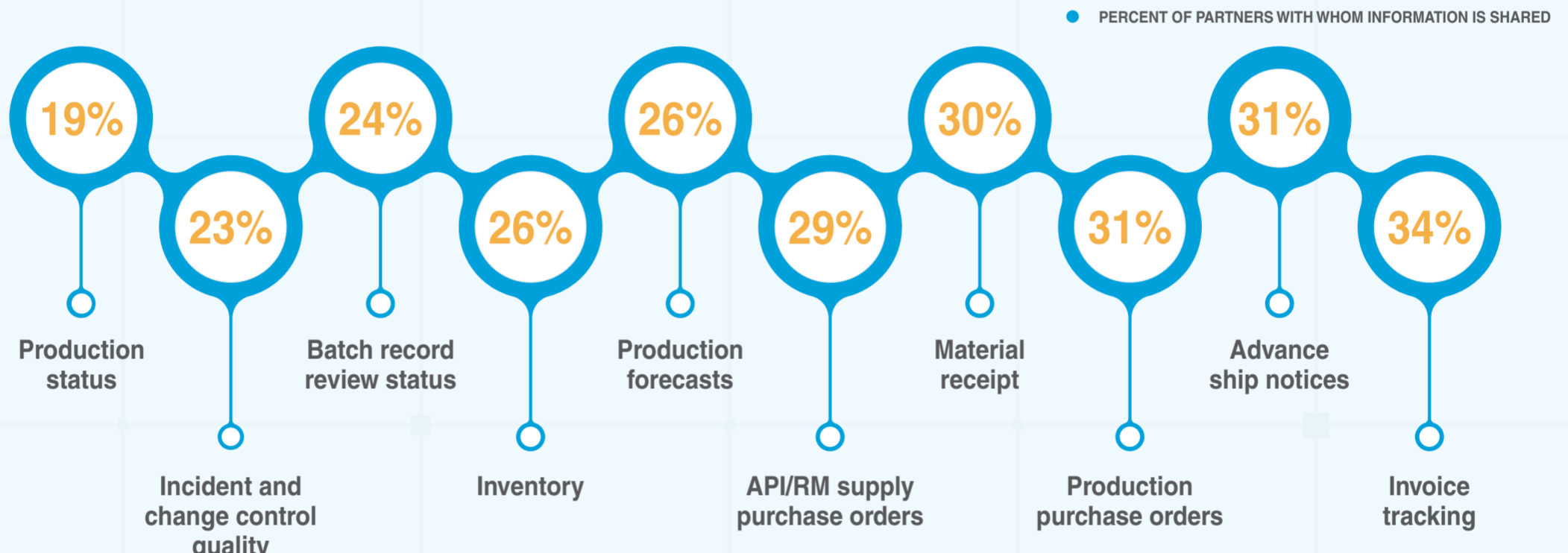
Data-driven, action-oriented collaboration with suppliers and contract manufacturers is now imperative to navigate the complexities of today's operating environment.

## Complexities in the Global Biopharmaceutical Ecosystem



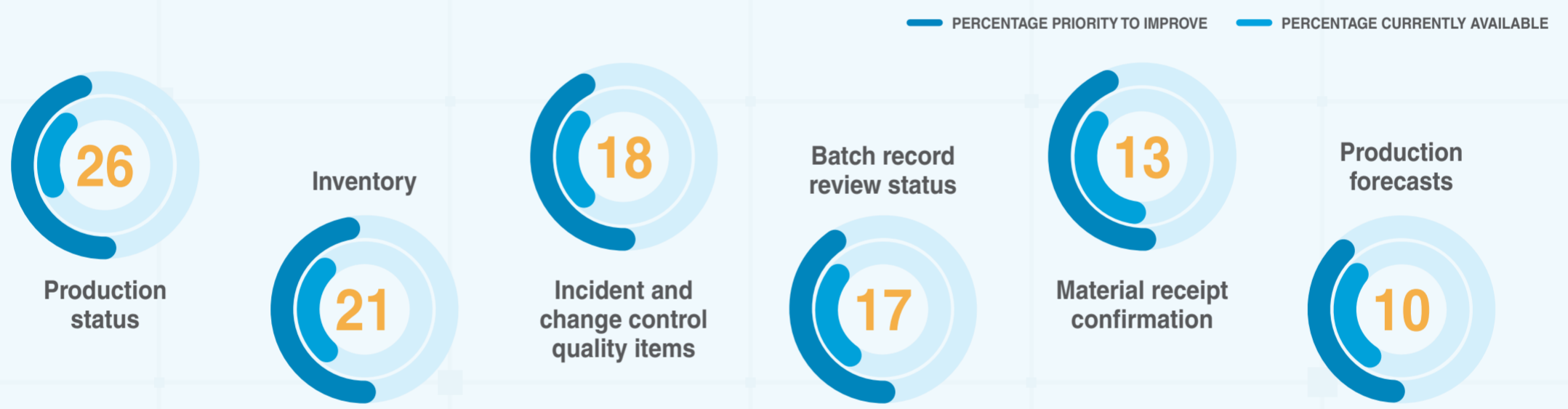
Source: Dr. Robert Handfield (NCSSU): "Analysis of Performance and Collaboration in Production and Supply Operations"

## Extent of Data Sharing in Manufacturing and Supply Chain



Source: Dr. Robert Handfield (NCSSU): "Analysis of Performance and Collaboration in Production and Supply Operations"

## Top Gaps in Information Sharing in Pharma Supply Chains



Note: Smaller gaps exist in Advance Shipping Notices, Supply POs, Invoice Tracking and Production POs.

Source: Dr. Robert Handfield (NCSSU): "Analysis of Performance and Collaboration in Production and Supply Operations"

## Key Elements to Drive Supply Chain Performance

**CONNECTIVITY**  
A supply network in which companies, facilities and virtual teams are tightly and digitally connected

**VISIBILITY**  
A holistic, detailed visibility across supply relationships and production life cycle

**DATA**  
Access to the latest, most accurate production and supply chain data

**COLLABORATION**  
Create an operational environment that facilitates multi-enterprise collaboration across shared supply chain processes

Source: Dr. Robert Handfield (NCSSU): "Analysis of Performance and Collaboration in Production and Supply Operations"; GEP Analysis

## The GEP Collaboration Suite



Source: GEP Analysis