

Serialization Snapshot: Poll Results from NEXUS '16

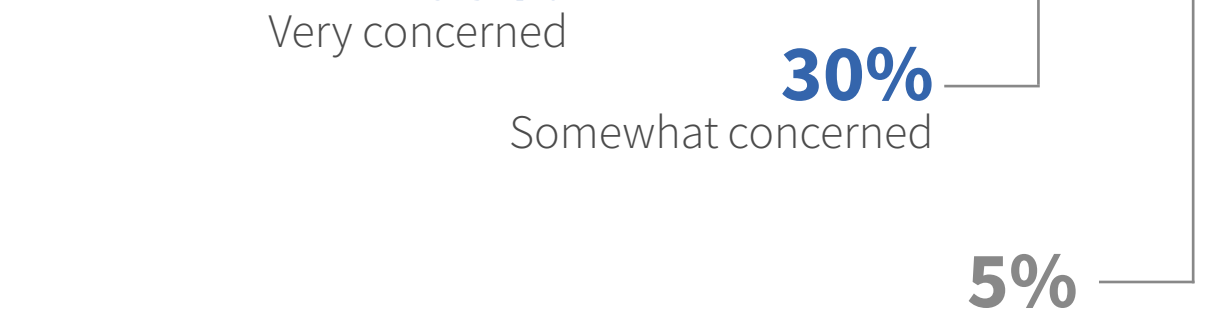
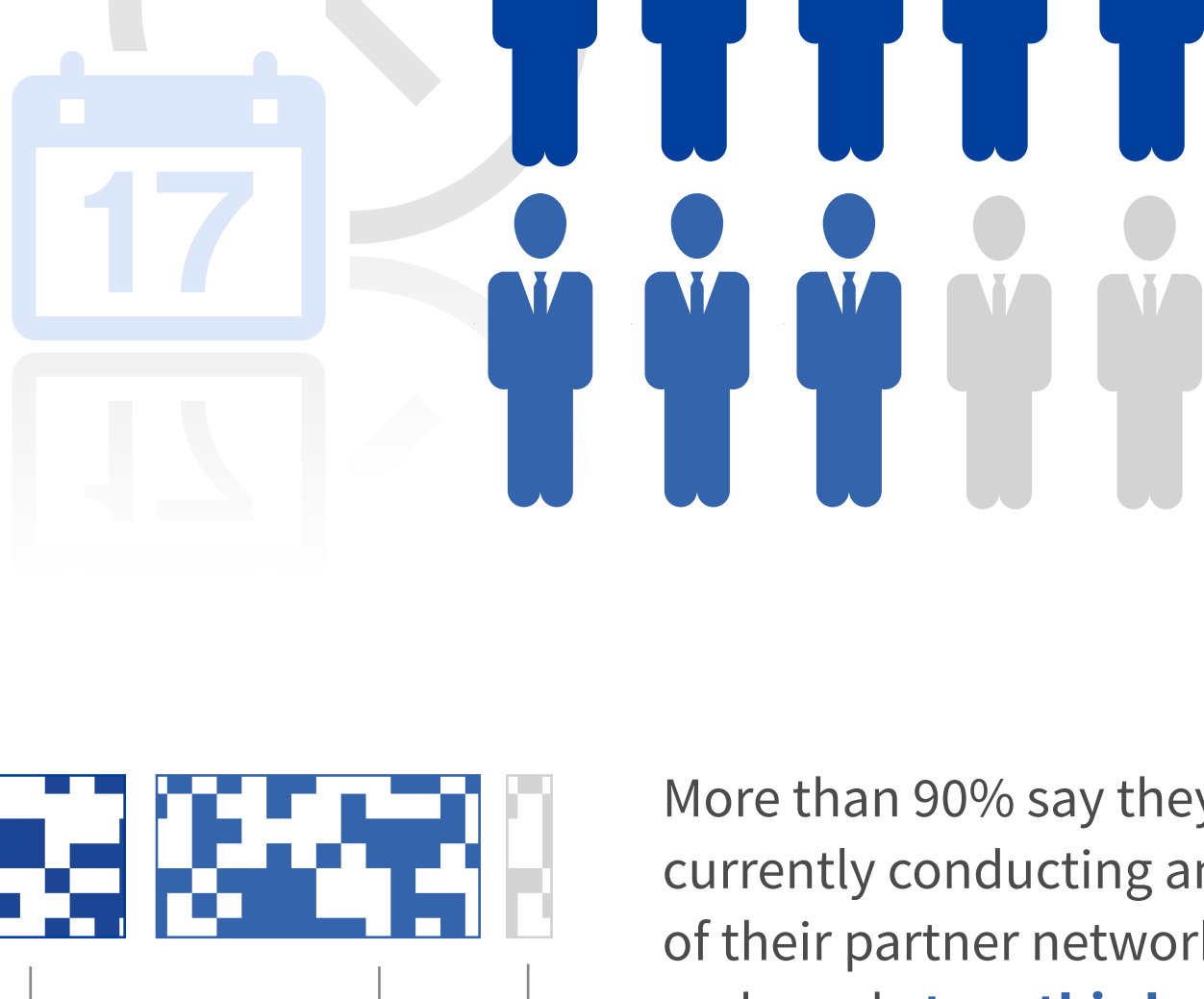
With 200 attendees from across four continents, this year's NEXUS event offered an ideal opportunity to get a pulse check from leaders throughout the life sciences industry.

How have their companies been preparing for serialization? What's been most problematic? Are they confident that they and their trading partners will be ready to meet U.S., EU, and other global deadlines?

Our live event polling yielded the following insights.

SERIALIZATION DEADLINES ARE CAUSING SERIOUS DISTRESS.

Nearly **80%** of respondents are concerned about hitting their deadline.



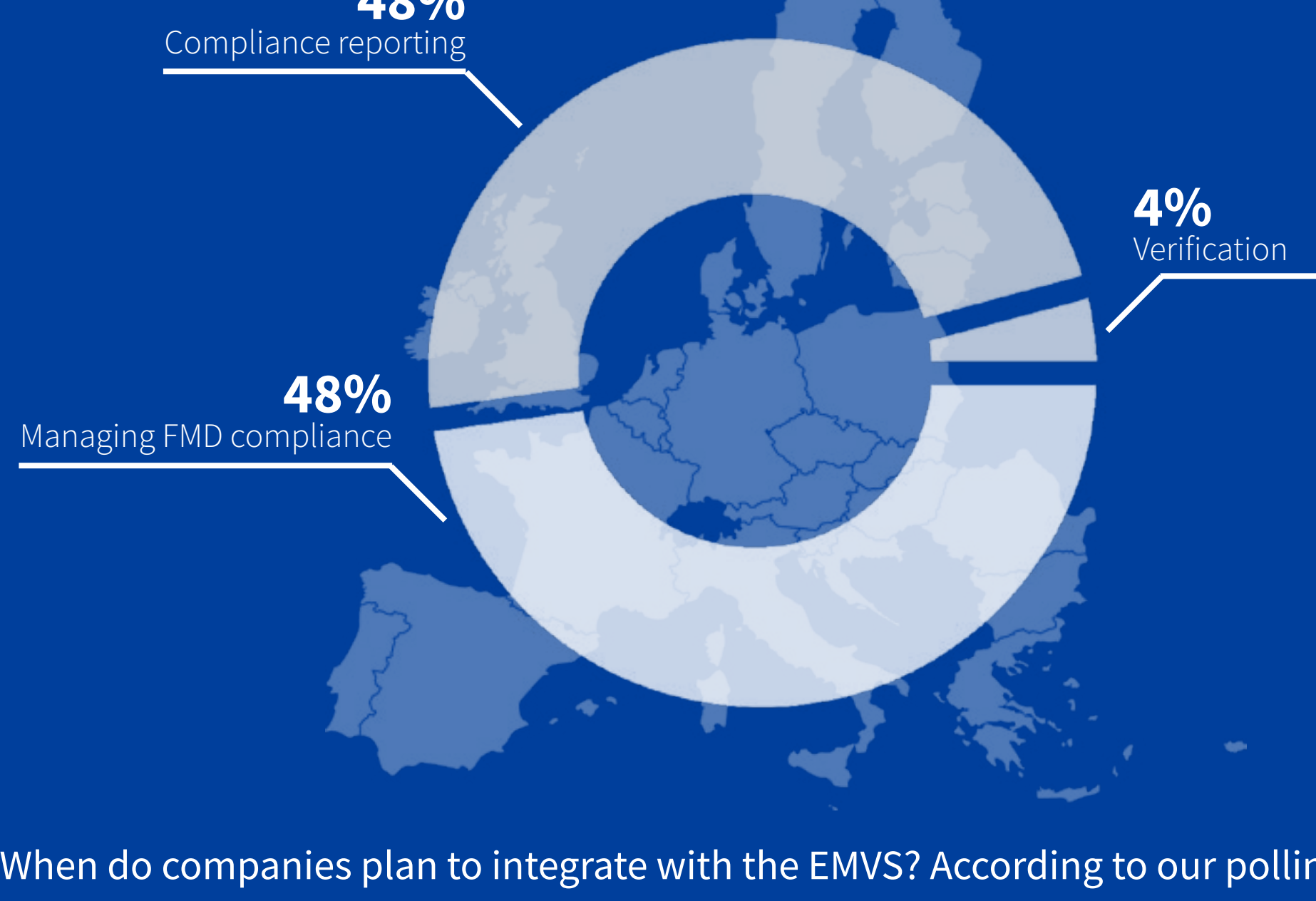
More than 90% say they are currently conducting an audit of their partner network – and nearly **two-thirds are very apprehensive** about their CMO or CPO's ability to serialize in time.

What happens if a CMO is not ready to meet the compliance deadline? Some organizations working with CMOs are establishing contingency plans for that possibility, including taking on packaging internally and partnering with other CMOs who are better equipped to meet compliance demands.

For those who partner with a 3PL, it's paramount to have a plan in place that details how to best work together toward serialization. **62%** of those polled are either currently developing a plan with their 3PL, or already have one in place.

EU READINESS: THERE ARE MAJOR INTEGRATION CONCERNS AND SCATTERED TIMELINES.

Meeting EU FMD requirements is not going to be easy, and there appear to be two areas of compliance keeping people awake at night.



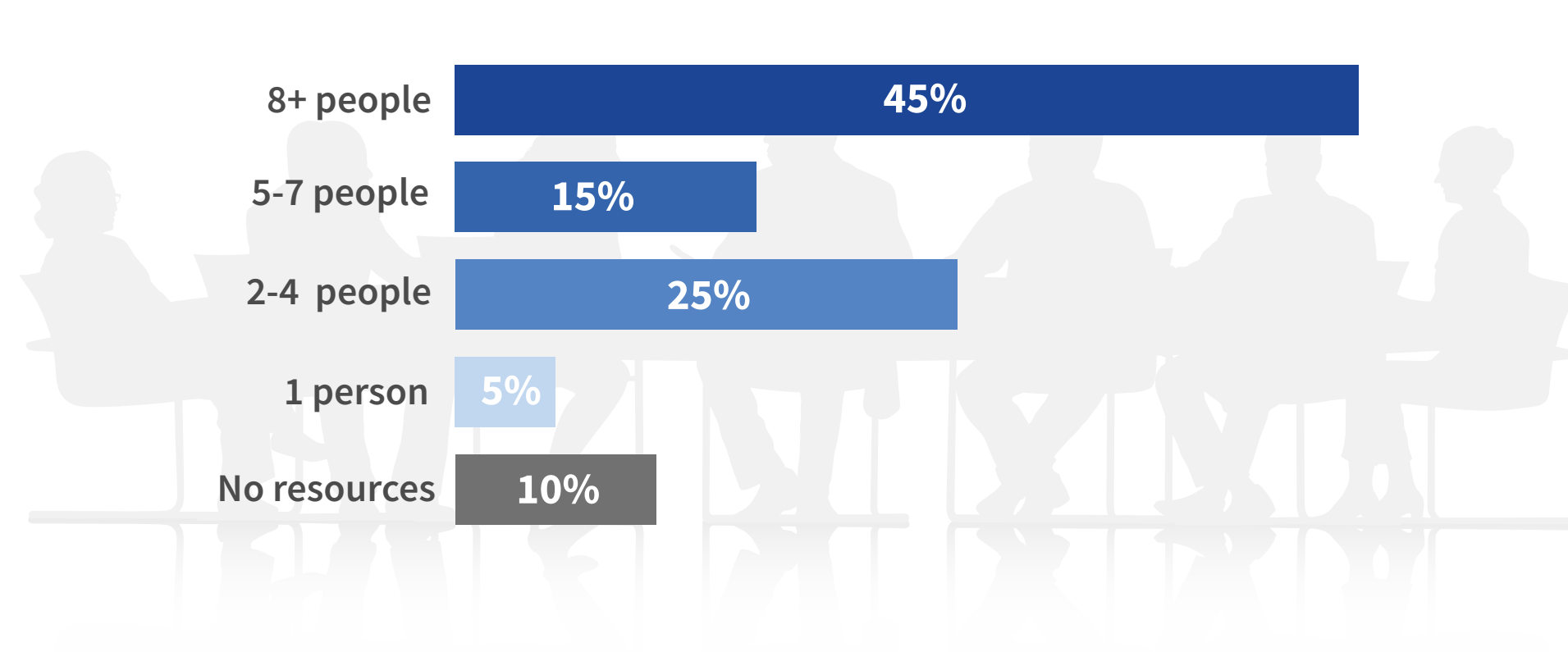
When do companies plan to integrate with the EMVS? According to our polling, various times over the next two years. Paul Mills, interim operations manager for the EMVO and a NEXUS '16 speaker, responded to the results with a strong warning against waiting until 2018.



"The problem is we have around 2,500 connections we have to make," Mills said. "Two-and-a-half thousand clients that have to be verified, validated, data-checked, proven to be correct, signed on to the system... then go through a test environment, a quality environment, and then be onboarded into production. It doesn't happen in five minutes. **If everybody leaves it until 2018, you're not leaving yourself an awful lot of space to do the job** and get it ready by the beginning of 2019."

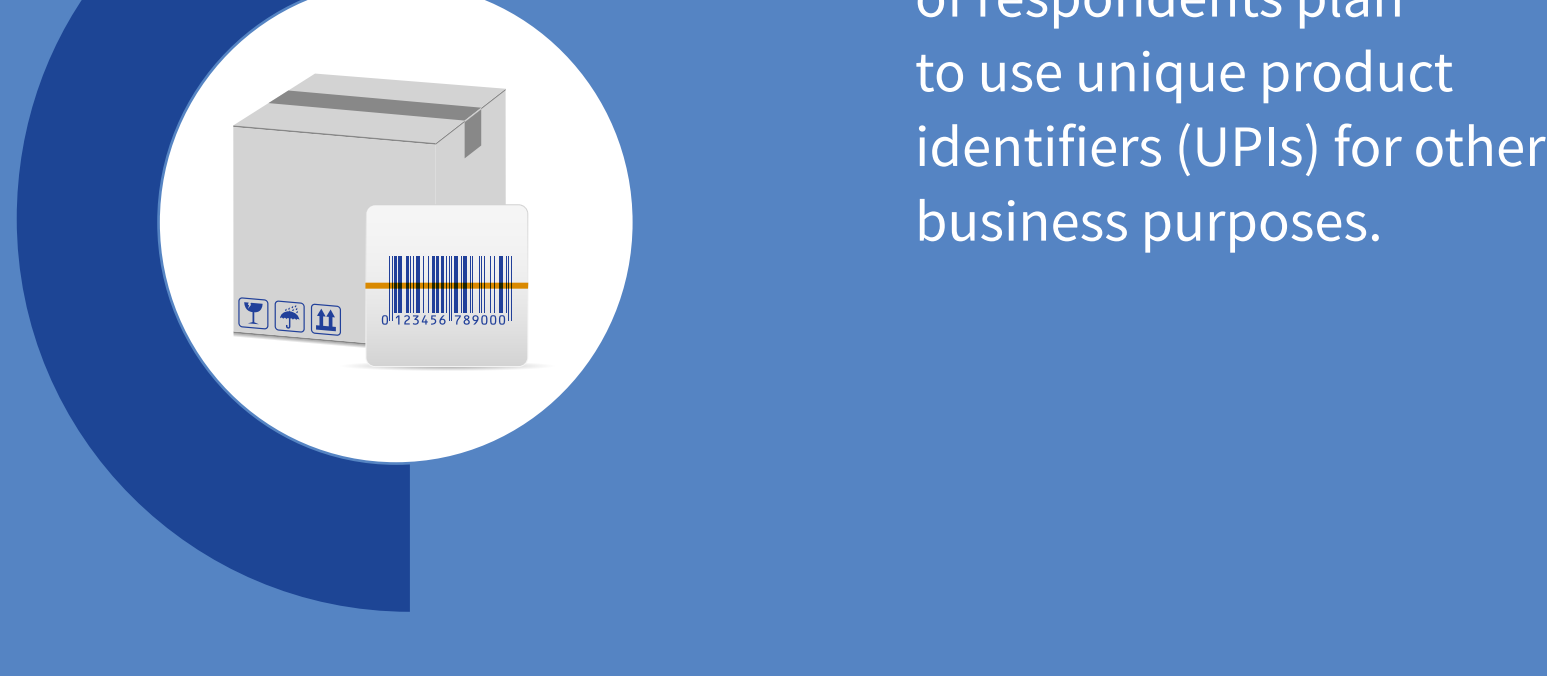
INTERNAL RESOURCES: 83% OF COMPANIES HAVE A SERIALIZATION PROJECT TEAM WITH FULLY ENGAGED EXECUTIVE SPONSORSHIP.

A majority of respondents have 8 or more people dedicated to serialization:

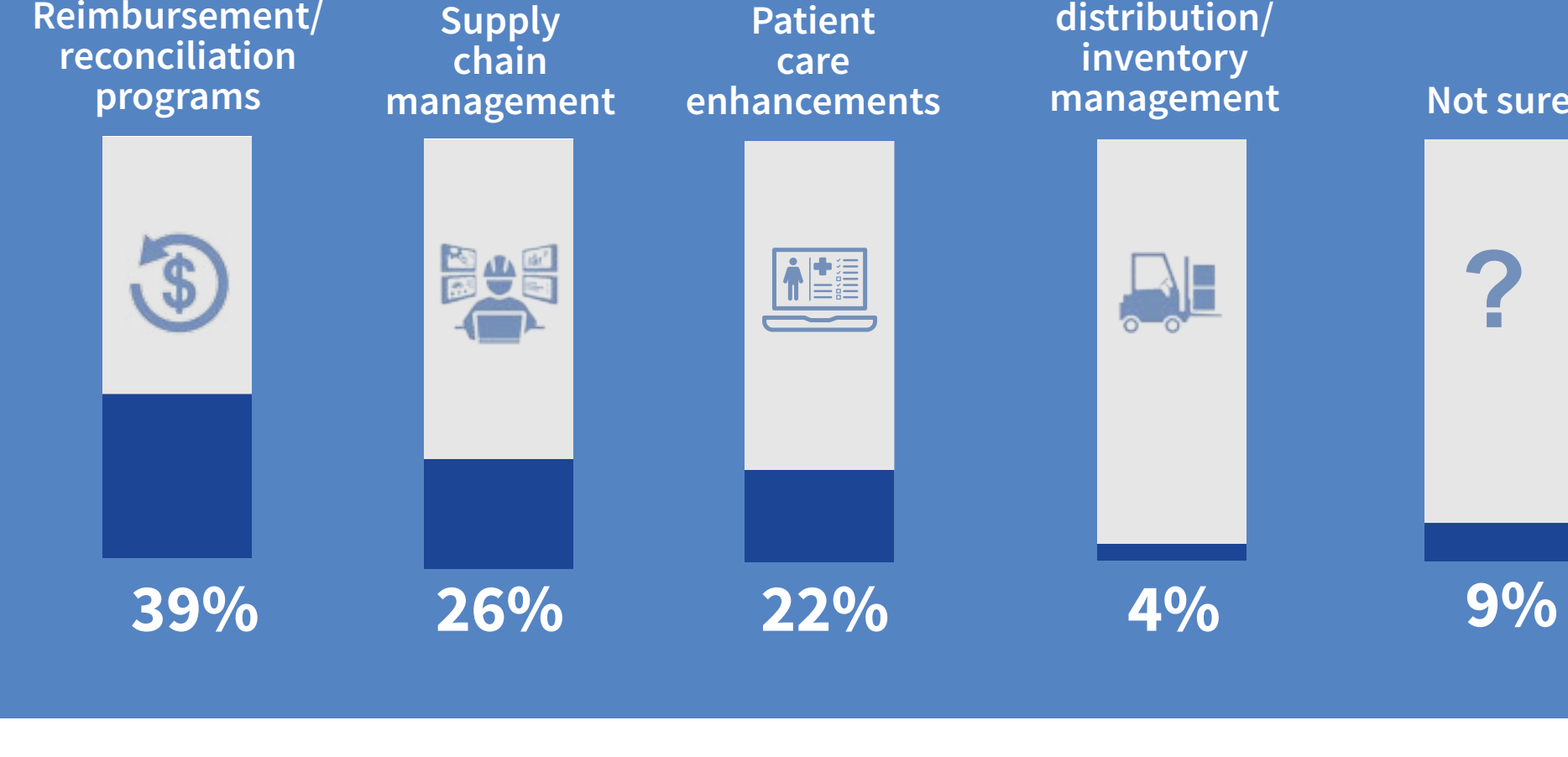


Who should be part of a serialization team? That depends on the people within your organization, and the role you play within the supply chain. But in general, you'll want representation from regulatory, IT, packaging (don't forget revised artwork to accommodate a new 2D symbol), procurement for new equipment, and production.

MANY COMPANIES SEE VALUE IN SERIALIZATION BEYOND COMPLIANCE.



Here's where they see the greatest value for their investment:



As an example of expanded value, take drug recalls: Analysts estimate as many as **270 million labor hours are spent each year managing recalls** – with tens of millions of missed units along the way. With better, more focused information that comes with serialization, recalls can be made with precision, cutting down on enormous waste from the dispenser to the manufacturer.

And improved inventory control and supply chain event management can stem **revenue leakage, often estimated at \$12-15 billion** a year, including roughly **\$4 billion** in returned credits. One NEXUS '16 keynote speaker estimated that reduction of industry-wide leakage by just one percentage point could result in billions of dollars saved.

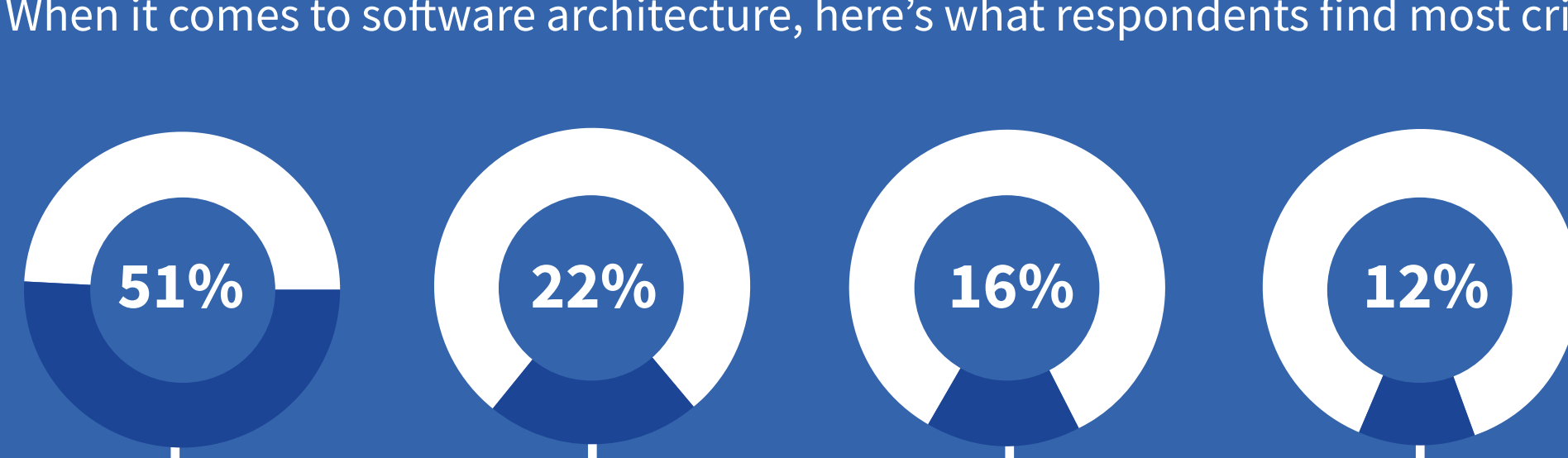
TECHNOLOGY: CHANGE IS EXPECTED, AND SECURITY IS THE MOST VALUED FEATURE.



Although changing architectures is never simple, it's familiar to nearly everyone.

98% of respondents have experienced a change in architecture since 2006.

When it comes to software architecture, here's what respondents find most critical:



Responding to these results in his NEXUS '16 keynote address, Sanjay Sarma, co-founder of Auto-ID Labs at MIT, explained that architecture for serialization must have strengths across all characteristics.

"**We need to achieve 'all of the above' equally,**" Sarma explained. "You need integrity and performance. You need security and speed and volumes. You can't say 'I'll have this and not the others.' Sorry, it doesn't work anymore, because there's a shipment that's going to miss."