revvity signals

BENCHMARK REPORT · R&D DIGITALIZATION

R&D digitalization in 2026

Global industries at a turning point

58%
Remain strictly focused on foundational centralizing and digitalizing of data.

<10%
Have achieved enterprise-wide data integration.

0%
Report actively deployed AI in R&D workflows.

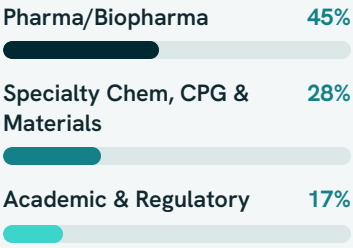
OVERVIEW

Having digitized (from paper to glass) through the late 1990s and early 2010s, the R&D community is now navigating the early adoption of digitalization and digitally enhanced workflows.

This report shares collective insights into the current state of digitalization from an audience of more than 100 global organizations, including market leaders in Pharma (Bayer, GSK, Sanofi, Novartis, J&J, Eli Lilly); consumer goods giants and specialty chemicals companies (Unilever, Procter & Gamble, FMC, Chemours); regulatory organizations (US Pharmacopeia, Health Canada), and academic research groups.

> The findings reveal a startling disparity. While we know that artificial intelligence (AI) and machine learning (ML) are high priority goals, most R&D organizations are still struggling with digitalizing and centralizing data.

WHO RESPONDED



Industry representation among 100+ participating organizations.

DIGITALIZATION MATURITY

Ambition vs. reality

A headline takeaway from our poll data is the digitalization maturity gap. A combined 62% of respondents are either in the evaluation phase or have not yet begun their digital journey. This indicates a significant gap between strategic intent and reality.

Only 20% of organizations have reached a stage where automated workflows and direct instrument data capture are standard.

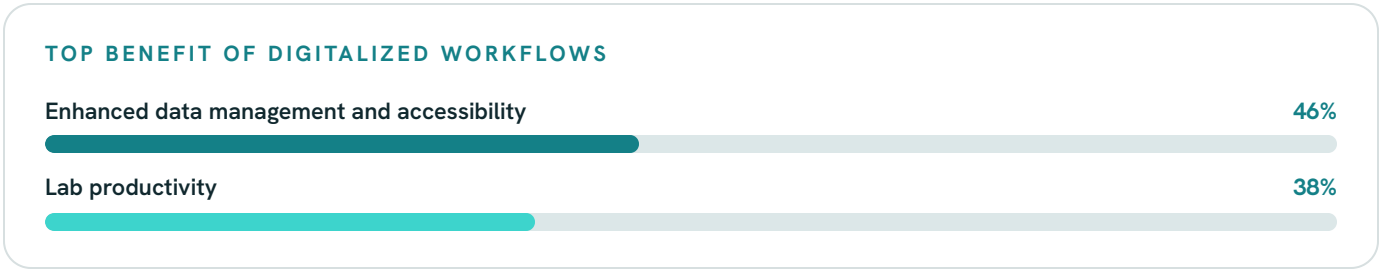
62%

are either in the evaluation phase or have not yet begun their digital journey

20%

have made automated workflows and direct instrument data capture standard

When asked about the benefits of digitalized workflows, respondents prioritized enhanced data management and accessibility (46%) over lab productivity (38%).



DRIVERS

Why centralize data?

Organizations are looking to centralize data to power the next generation of discovery and development.

46%

Create efficiencies in R&D

23%

Knowledge sharing and continuity

15%

Ability to leverage data for AI/ML

15%

Improve data governance/integrity

To create R&D efficiency 46%

Creating R&D efficiency is the primary driver (46%) of digitalization efforts.

A benchmark report from 2001 said, "...knowledge workers spend 30% of their workday searching for information." A 2025 survey found that little had changed in that situation—10–11 hours a week are still spent on data collection and preparation and 76% of data professionals rely on manual spreadsheets to analyze and prepare data. This reliance on spreadsheets is rife in scientific R&D.

10–11 hrs

a week still spent on data collection and preparation (2025 survey)

76%

of data professionals rely on manual spreadsheets to analyze and prepare data

When scientists want access to historical data to compare with new results, troubleshoot failures, and optimize processes, easy access to data is essential. It is imperative for R&D organizations to ensure that their data infrastructure balances scientists' data needs with their ambitions for digital innovation.

For knowledge continuity 23%

In the high-turnover R&D talent market, the institutional knowledge of an organization is its most valuable asset. Knowledge-sharing and continuity were chosen by 23% as the most important reason to centralize R&D data. Centralization ensures that when a researcher leaves, their insights remain available and accessible.

To leverage the predictive potential of data 15%

A growing cohort (15%) is centralizing data with the express intent of training AI/ML models, recognizing that data is the fuel for the AI engine.

THE CHALLENGE

Overcoming digitalization obstacles

The poll results clearly identify the biggest obstacle to digitalization as the technical debt of legacy and siloed systems.

43%

Heterogeneous data formats

41%

Data remains siloed by technique

35%

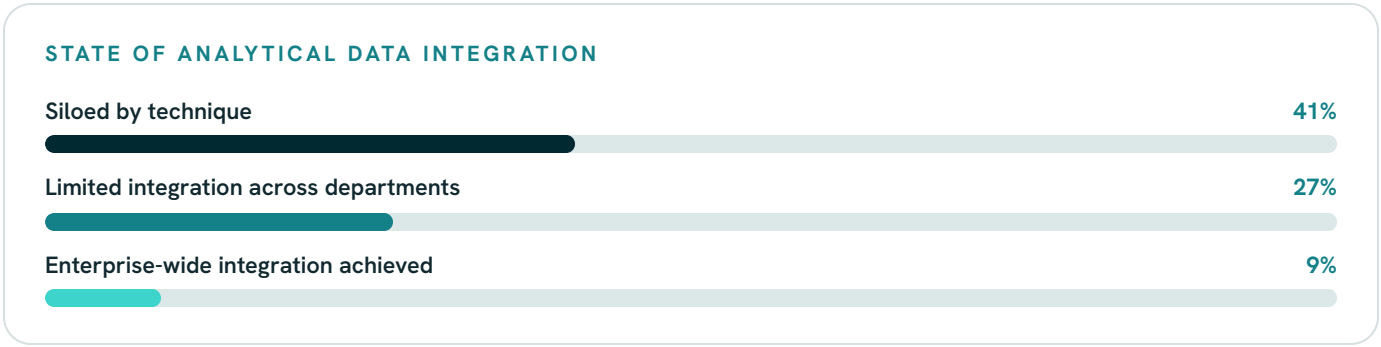
Lack of alignment between scientists and IT

Incompatible formats & legacy systems 43%

The single biggest hurdle is the weight of heterogeneous data formats (43%). Proprietary file formats from analytical instruments and legacy systems create digital islands. Technically the data is stored but it is functionally inaccessible to scientists (software to work with the data may no longer be available so data may be reported but cannot be interrogated), and useless to AI applications.

Lack of data integration 9%

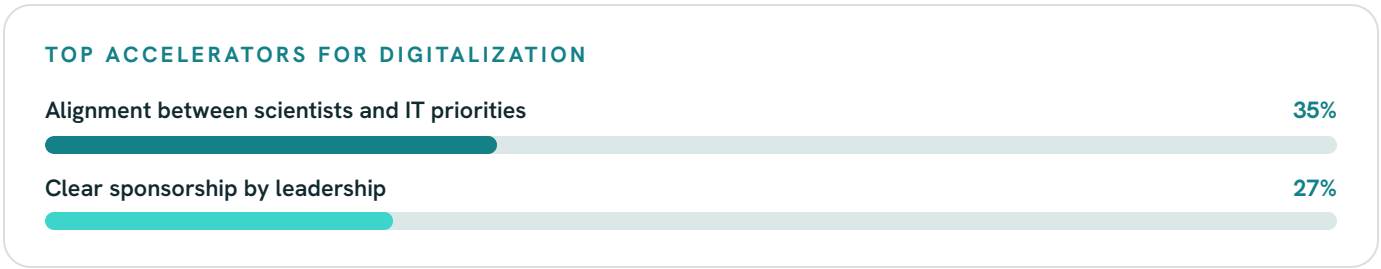
Enterprise-wide data integration is the goal for digitalization projects, but only 9% of respondents have achieved it for analytical data. 27% report limited analytical data integration across departments, while for 41% it remains siloed by technique (e.g., NMR data living in a different ecosystem than LC-MS results).



Analytical data is a decision-driver in R&D and a known digitalization challenge due to data volume and heterogeneity. Lack of analytical data integration means scientists spend too much time searching for and assembling data. This slows project timelines, may create blind spots in the R&D pipeline, and makes the data inaccessible to AI.

Friction within the organization

Alignment between scientists and IT priorities was identified as the number one accelerator for digitalization (35%). IT must invest in systems that respect scientific workflows and align with scientific goals. Clear sponsorship by leadership was a close second critical factor (27%). Success hinges on alignment between leadership, IT, and scientists.



AI READINESS

The reality of AI-enablement in R&D

0%

of respondents have actively deployed AI/ML in core R&D workflows

The most sobering statistic is that none of the respondents have actively deployed AI/ML in their core R&D workflows. The majority (58%) are correctly focused on the pre-requisite phase: digitalizing and centralizing data. So, while the ambition to use AI/ML is high, there is a clear gap in the data infrastructure to support it.

CONCLUSION

The path to R&D digitalization

Unsurprisingly, digitalization remains a focus in R&D. While most organizations spanning big pharma, specialty chemicals, and consumer goods have their data “on glass” (data is digital), it is still siloed and fractured. While a very limited number of isolated teams may be starting to leverage data for AI, most are still laying the digital foundation and paralyzed by the volume of data preparation work necessary to make data accessible. Digitalization projects are focused on identifying and automating workflows, integrating systems, and reducing the manual burden of data management.

The near-term focus in R&D must continue to be on bridging the gap between IT and science to replace data silos with integrated, accessible data environments. Only when the foundational groundwork of data centralization and a data-centric infrastructure are in place, can organizations take the next step towards advanced data applications.

FEATURED PRODUCTS

Building the data foundation

Spectrus® ADMS

Analytical data management that brings data from across instruments and techniques into one environment.

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Capture experiments, data and results in an electronic lab notebook.

Learn more →

Data formats & integrations

Native support for more than 150 instrument vendor formats.

Learn more →

NEXT STEPS

Ready to centralize your R&D data?

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Unleash that big, beautiful science.

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