

Integrating Content Services into Low-Code Applications

In Partnership with

The logo for Hyland, featuring the word "Hyland" in a green, serif font with a registered trademark symbol.

About the author

John Mancini
Chief Evangelist and Past
President of AIIM



John Mancini is the Chief Evangelist and Past President of AIIM. He is a well-known author and speaker on information management and digital transformation.

As a frequent keynote speaker, John offers his expertise on Digital Transformation and the struggle to overcome Information Chaos. He blogs under the title Digital Landfill (<http://info.aiim.org/digital-landfill>), has more than 11,000 Twitter followers, 6,000 LinkedIn followers, and can be found on most social media as @jmancini77. He has published more than 25 e-books, the most recent being:

- [GDPR After the Deadline](#)
- [Automating Compliance and Governance](#)
- [How does the Office 365 Revolution Impact Governance and Process Automation?](#)
- [Enhancing Your RPA Implementation with Intelligent Information](#)
- [The State of Intelligent Information Management: Getting Ahead of the Digital Transformation Curve](#)

About AIIM



Here at AIIM, we believe that information is your most important asset and we want to teach you the skills to manage it. We've felt this way since 1943, back when this community was founded.

Sure, the technology has come a long way since then and the variety of information we're managing has changed a lot, but one tenet has remained constant — we've always focused on the intersection of people, processes, and information. We help organizations put information to work.

AIIM is a non-profit organization that provides independent research, training, and certification for information professionals.

Visit us at www.aiim.org.

About the research

As the non-profit association dedicated to nurturing, growing and supporting the information management community, AIIM is proud to provide this research at no charge to our members. In this way, the entire community can leverage the education, thought leadership and direction provided by our work. We would like these research findings to be as widely distributed as possible.

Feel free to use individual elements of this research in presentations and publications with the attribution — "© AIIM 2018, www.aiim.org". Permission is *not* given for other aggregators to host this report on their own website.

Rather than redistribute a copy of this report to your colleagues or clients, we would prefer that you direct them to www.aiim.org/research for a download of their own.

INTEGRATING CONTENT SERVICES INTO LOW-CODE APPLICATIONS

Survey demographics

We value our objectivity and independence as a non-profit industry association. The results of the survey and the market commentary made in this report are independent of any bias from the vendor community.

The survey was taken using a web-based tool in mid-November 2018.

The survey participants were NOT associated with AIIM prior to taking the survey.

A total of 188 individuals participated in the survey.



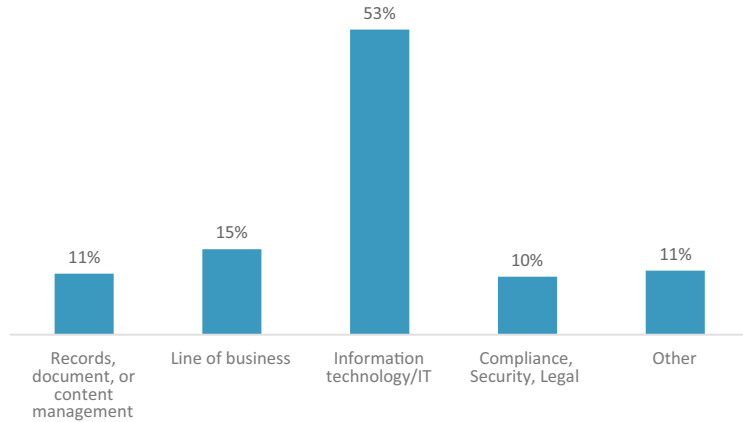
Key data points

- ★ The core areas of responsibility for the survey participants were: 53% information technology/IT; 15% line of business; 11% DM, CM, RM; and 10% compliance, security, legal.
- ★ 80% of participants were from organizations with > 100 employees; 32% from organizations with > 1000 employees. Organizations with less than 10 employees were excluded.
- ★ 64% of the participants were from outside North America.
- ★ The largest vertical industries in the survey were:
 1. Technology
 2. Manufacturing, Aerospace and Food
 3. Engineering & Construction
 4. Financial Services

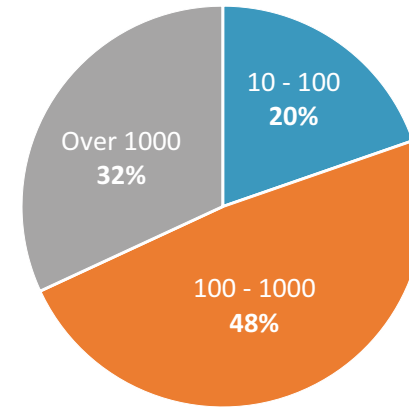
Some additional data cited in this eBook is drawn from other AIIM end-user surveys conducted this year. Where used, these additional sources are noted with a footnote.

INTEGRATING CONTENT SERVICES INTO LOW-CODE APPLICATIONS

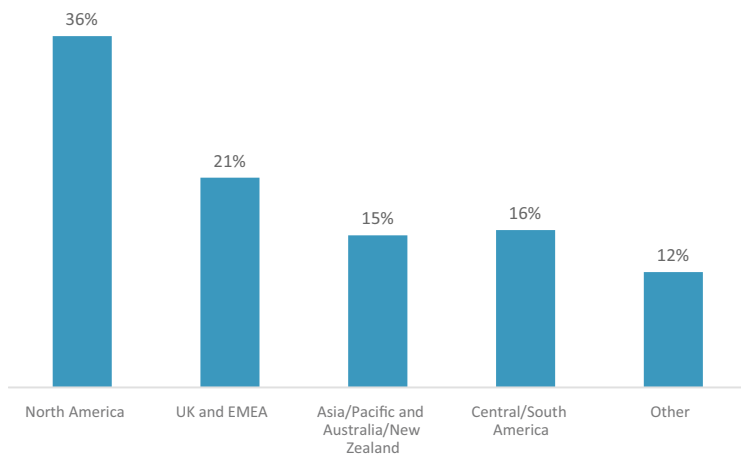
Which is the best description of the department in which you work?



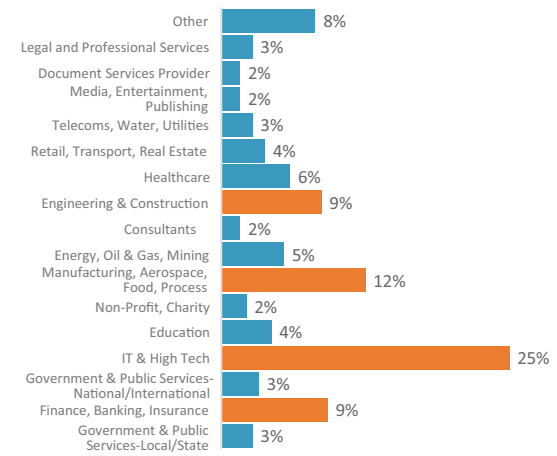
How many employees work at your organization?



Where is your organization headquartered?



Which of the following best describes the primary business of your organization?



INTEGRATING CONTENT SERVICES INTO LOW-CODE APPLICATIONS

Integrating Content Services into Low-Code Applications

In the first wave of process automation, organizations focused on large-scale, mission-critical, document-intensive processes. The BPM and ECM capabilities used to solve this first generation of problems tended to be expensive, complicated, and had long implementation cycles, but this didn't matter that much because the problems these capabilities solved were so critical.

As the need for automation has moved beyond the core set of initial enterprise content management (ECM) processes, it's become clear that low-code applications are a priority for a host of knowledge workers who are not IT or BPM specialists:

- ★ Legacy process solutions are difficult to integrate with other processes and applications, and with the content capabilities they need in order to be fully effective.
- ★ Legacy solutions require the intervention of IT staff (and often custom development), and "the business" is no longer willing to wait in the priority queue to solve its automation problems.
- ★ Legacy BPM solutions often require a specialized skill set to both create and maintain the solution.
- ★ Not every process problem is a large-scale, mission-critical, document-intensive process.

Past AIIM research¹ documents these challenges:

- ★ Content integration remains a challenge. While most organizations continue to increase the number of content systems they use, a rising portion of critical business content (now 54%) remains OUTSIDE those content management systems.

- ★ For 70% of organizations, the monolithic model characteristic of the ECM era has been replaced by a desire to consume content capabilities as needed — i.e., content services.
- ★ 92% of organizations believe that *something* needs to change and that they must modernize their information management strategy.

Enter low-code and no-code process platforms.

This eBook focuses on these four key questions:

1. Where are organizations in their "low-code journey"?
2. How do organizations that are interested in low-code application platforms plan to integrate unstructured information and intelligent information management (IIM) capabilities into these platforms?
3. What are the key business drivers for the interest in low-code application platforms?
4. What kind of spending is planned for low-code platforms in 2019?



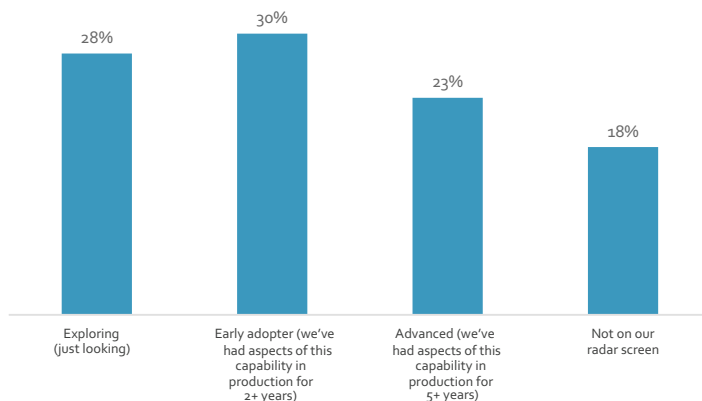
INTEGRATING CONTENT SERVICES INTO LOW-CODE APPLICATIONS

1 — Where are organizations in their “low-code journey”?

Organizations are now looking for new and additional process platforms beyond traditional BPM and ECM that are more nimble, more agile, and more easily deployed by the business to tackle the next wave of process challenges.

For the purposes of this eBook, when we say, “Low-code Application Platforms,” we are talking about self-service platforms — those that allow organizations to improve the business outcomes of all types of work, not just structured and repeatable business processes. Gartner calls this space “Intelligent Business Process Management Suites” and Forrester calls it “Digital Process Automation Software.”

What is the stage of adoption of Low-code Process Application Platforms in your organization?



Key data points

- ★ 53% of organizations are either fully engaged or exploring low-code process application platforms.
- ★ Organizations are roughly split 50/50 on whether “deep” processes (the kinds that BPM is best suited for) or “wide” processes (the kinds of processes that low code is ideal for) are the most challenging.
- ★ Reflecting its maturity in the marketplace, the penetration rate for BPM solutions is 10 percentage points higher than for either low code or RPA solutions.
- ★ Reflecting the complexity of managing processes at large scale, the larger the company, the more likely they are to be challenged by “deep” processes.
- ★ 71% of organizations see the concept of “citizen developer” as important to their process improvement plans.

“

“Nearly 60% of all custom apps are now built outside the IT department.”

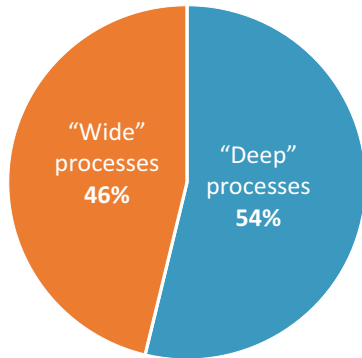
— 451 Research and FileMaker, Inc., 2017

”

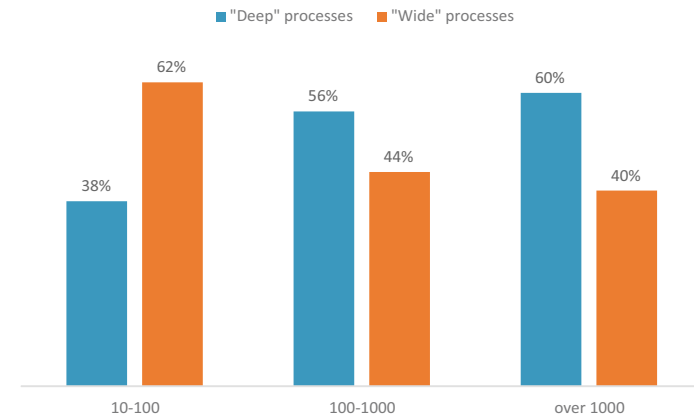
INTEGRATING CONTENT SERVICES INTO LOW-CODE APPLICATIONS

Forrester talks about deep processes (“BPM grew up handling complex, long-running processes”) and wide processes (“the long tail of applications that codify the dozens, if not hundreds, of manual processes that can trip up customer experiences”).

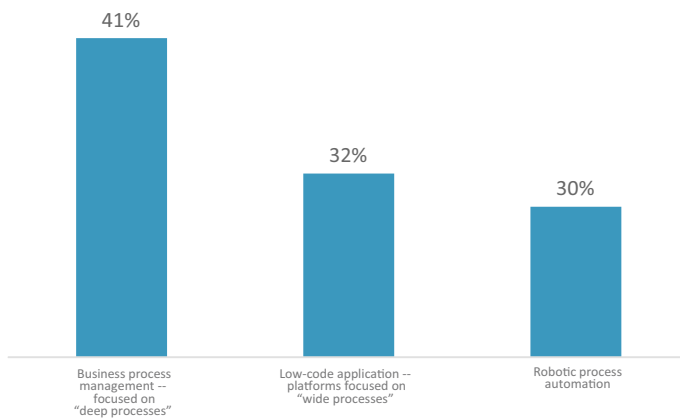
Looking over the next 12 months, which represents the more difficult challenge for your organization?



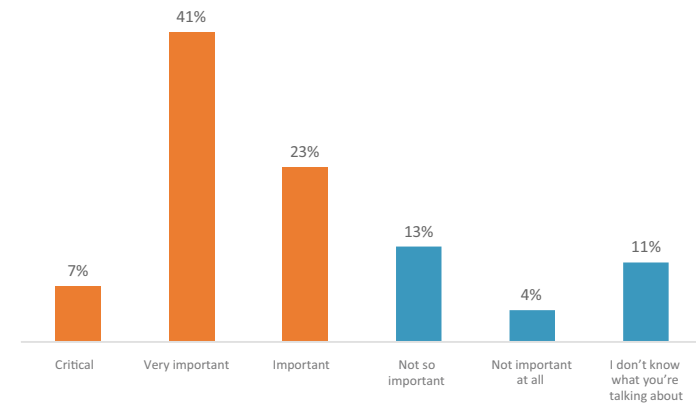
Which is a bigger challenge? -- "Deep" or "Wide" processes -- by number of employees



"We have a solution."



How important is the concept of "citizen developer" to your organization's process improvement plans?



INTEGRATING CONTENT SERVICES INTO LOW-CODE APPLICATIONS

2 — How do organizations that are interested in low-code application platforms plan to integrate unstructured information and IIM capabilities into these platforms?

In many ways, the interest in low-code application platforms mirrors the conversation about RPA (Robotic Process Automation) technologies. The interest is triggered by the limitations of traditional ECM and BPM approaches requiring significant investment, long development cycles, and a significant investment of IT resources. It is also generated by the sheer volume of process automation requests that are more tactical and immediate — and often stuck in a long IT development queue.

Organizations typically find that RPA and low-code platforms yield significant and immediate returns. The key to *long-term* success is to remember that the volume of information coming into organizations is exploding, the preponderance of this information is unstructured or semi-structured (i.e., content or documents), and that there are unique challenges associated with turning unstructured information into machine-comprehensible data that cannot be ignored.

“

“In the current environment where the landscape of apps is growing in every arena, the challenge is to figure out how to create as many apps as possible that can be easily adapted and maintained.”

— Dan Woods, *The Business Case For Low-Code Development*

”

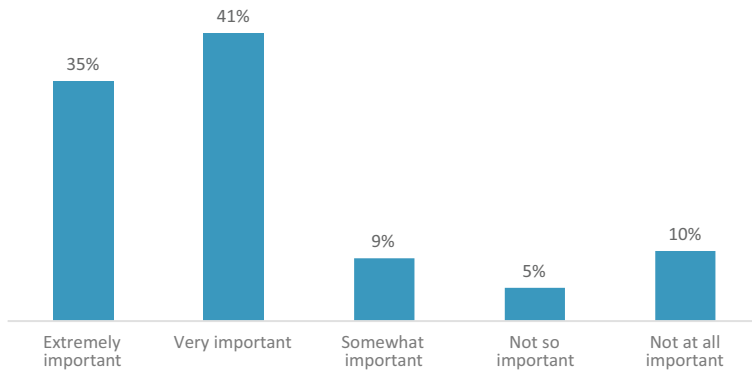
Key data points

- ★ 76% of organizations see the ability to turn unstructured information into structured data capable of being analyzed by machines as “extremely” or “very” important to their efforts to “democratize” process responsibility.
- ★ There is a wide variation of opinion about the most important building blocks for creating a more agile approach to process automation, but BPM tools are clearly still viewed as continuing to be an important part of the puzzle.
- ★ A deeper understanding of the context of content (as reflected in the prioritization of analytics, semantics, and more intelligent data) is key for larger companies in generating a more agile approach to process automation.



INTEGRATING CONTENT SERVICES INTO LOW-CODE APPLICATIONS

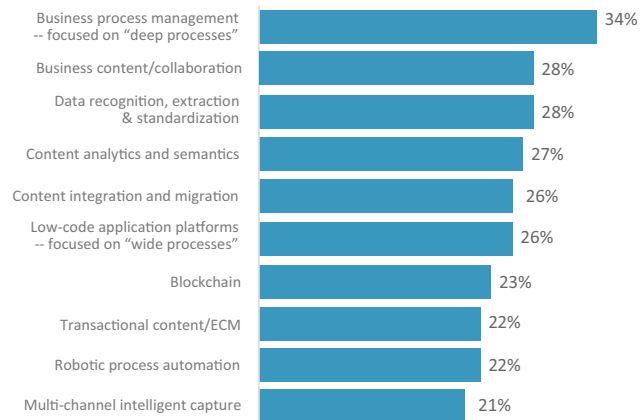
How important is it to the success of your efforts to "democratize" process improvement to be able to easily turn unstructured information (like documents, images, audio, video, application files) into structured data capable of being analyzed by machines?



What are the three most important building blocks in creating a modern and agile approach to process automation? – by number of employees

	100-1000	over 1000
Business process management -- "deep processes"	35%	37%
Low-code application platforms -- "wide processes"	27%	27%
Robotic process automation	21%	22%
Blockchain	29%	20%
Multi-channel intelligent capture	22%	20%
Business content/collaboration	35%	23%
Transactional content/ECM	25%	20%
Content integration and migration	24%	28%
Content analytics and semantics	27%	32%
Data recognition, extraction & standardization	24%	38%

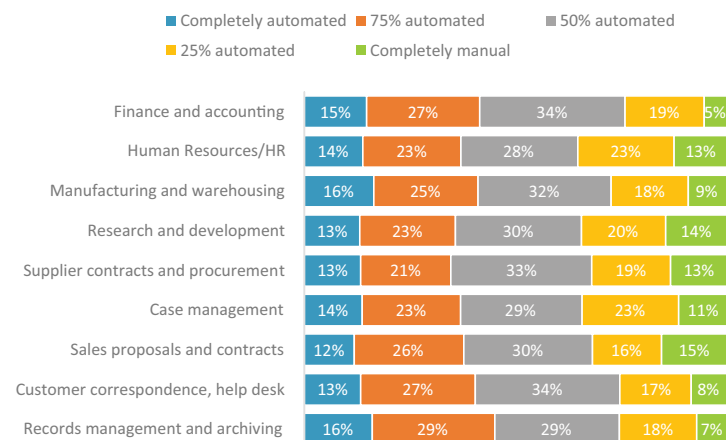
What are the three most important building blocks in creating a modern and agile approach to process automation? Please select 3.



3 — What are the key business drivers for the interest in low-code application platforms?

Low-code application platforms are often associated with “citizen developers” — business analysts who seek to assume direct responsibility for their own processes and are frustrated with long IT queues. While this desire for automation “democratization” is clearly a strong driver, low-code is also a key priority for developers seeking more agile approaches to process automation.

How would you describe the degree of automation that CURRENTLY exists in each process in your organization?



Key data points

- ★ Manual approaches and partial automation remain the norm across a number of key back-office processes, implying that traditional BPM technologies have had mixed success in solving these problems.²
- ★ A focus on the needs of IT developers **and** business analysts is viewed as critical to low-code success.
- ★ As might be expected, understanding and meeting the needs of IT developers in determining the success of a low-code initiative is clearly more important at mid-sized and large companies than at small companies.
- ★ The most important criteria in selecting a low-code vendor are:
 1. Packaged business applications.
 2. Ease of use for both “citizen” and “professional” developers.
 3. Support for both on-premises and cloud environments.
 4. Vendor profitability.
- ★ There is a fair amount of variation in the relative importance of these criteria based on the size of the company.

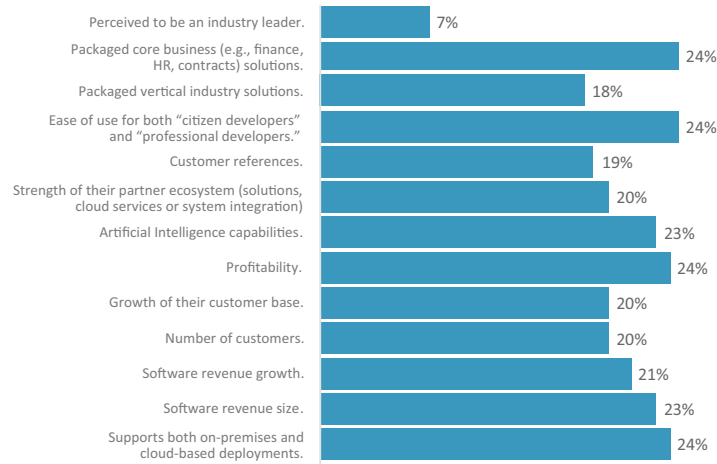
“*Low-code platforms can help businesses fill developer talent gaps by allowing business and IT professionals without coding or application development experience to build apps. They can also help make developers on staff more productive by cutting down development time.*”

— Alison DeNisco Rayome, *Low-code platforms: A cheat sheet*

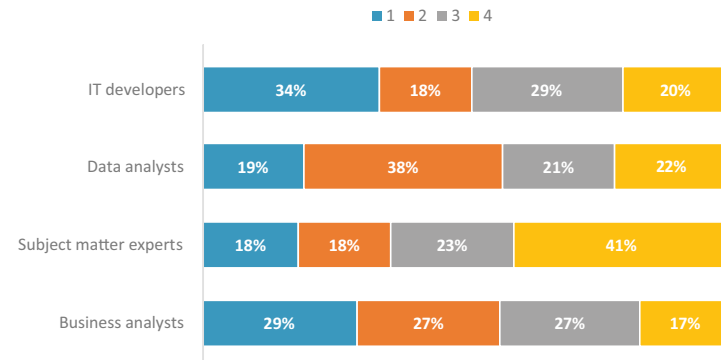
²Enhancing Your RPA with Intelligent Information, N = 224

INTEGRATING CONTENT SERVICES INTO LOW-CODE APPLICATIONS

Which of the following criteria are MOST important to your organization in making a choice about a low-code application platform decision? Please pick THREE.



Rank the following kinds of users in determining the ultimate success of a Low-code approach to process automation, with 1 being the most important and 4 the least important.



Which of the following criteria are MOST important to your organization in making a choice about a low-code application platform decision? – Top choices

10-100 employees	100-1000 employees	Over 1000 employees
Packaged core business (e.g., finance, HR, contracts) solutions	Packaged core business (e.g., finance, HR, contracts) solutions	Software revenue growth
Number of customers	Ease of use for both "citizen developers" and "professional developers"	Software revenue size
Ease of use for both "citizen developers" and "professional developers"	Artificial Intelligence capabilities	Artificial Intelligence capabilities
Software revenue size	Supports both on-premises and cloud-based deployments	Profitability
Growth of their customer base	Customer references	Supports both on-premises and cloud-based deployments



4 — What kind of spending is planned for low-code platforms in 2019?

As organizations work to modernize their IT stack, there is considerable correlation between investment in next generation platforms like low-code and other complementary technologies. A key point to consider is that organizations do not seem to view low-code as a *substitute* for BPM, but rather as a *complement*, with each focused on different problem sets.

“

“Low-code platforms can help businesses fill developer talent gaps by allowing business and IT professionals without coding or application development experience to build apps. They can also help make developers on staff more productive by cutting down development time.”

— Matt D'Angelo, *Low-Code App Makers Turn Small Business Owners Into Developers*

”

Key data points

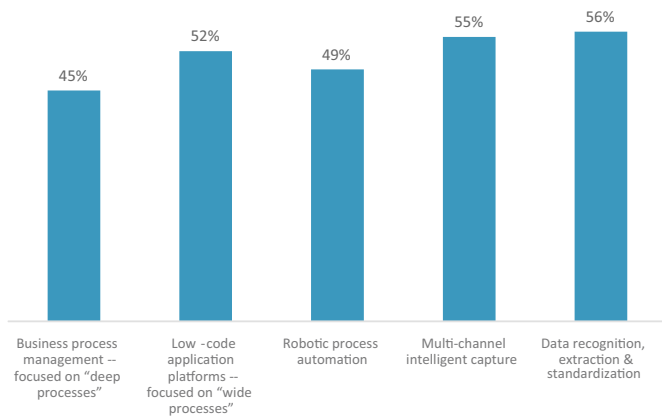
- ★ 52% of organizations are actively looking at low-code platforms, and a similar percentage are also looking at key complementary technologies to support low-code — BPM, RPA and multi-channel intelligent capture, as well as data recognition, extraction, and standardization.
- ★ Roughly 30% of organizations have an existing capability in low code, BPM, RPA, multi-channel intelligent capture, and data recognition, extraction, and standardization.
- ★ Roughly 20% of organizations plan to increase their spending by 30% or more over current levels in low-code and complementary technologies; an additional 40% plan to increase their spending by 10% or more.
- ★ 53% of those planning to spend “more” or “a lot more” on RPA technologies are planning on doing similarly on low-code application platforms.⁴
- ★ 63% of organizations say they are likely to utilize Machine Learning technologies in the next 24 months to improve the effectiveness of their low-code initiatives.⁵

⁴Enhancing Your RPA with Intelligent Information, N = 224

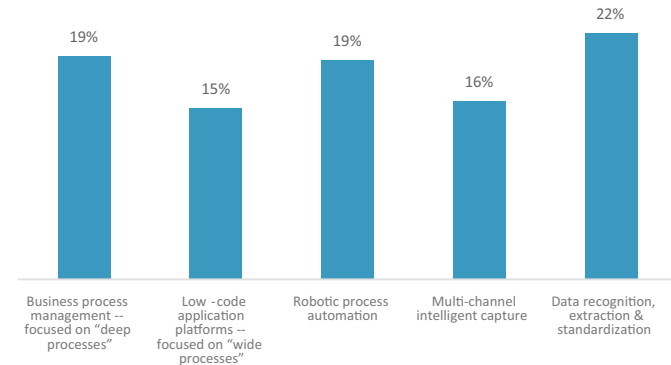
⁵Leveraging Deep Learning and Machine Learning Capabilities, N = 195

INTEGRATING CONTENT SERVICES INTO LOW-CODE APPLICATIONS

"We are talking to vendors" or
"We are researching this area"

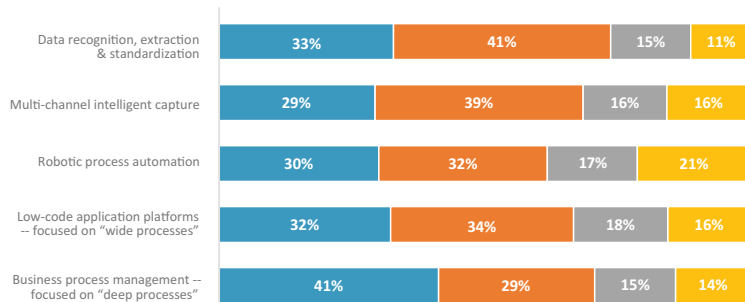


"We are planning to increase our spending by more than 30% over the next 12 months"



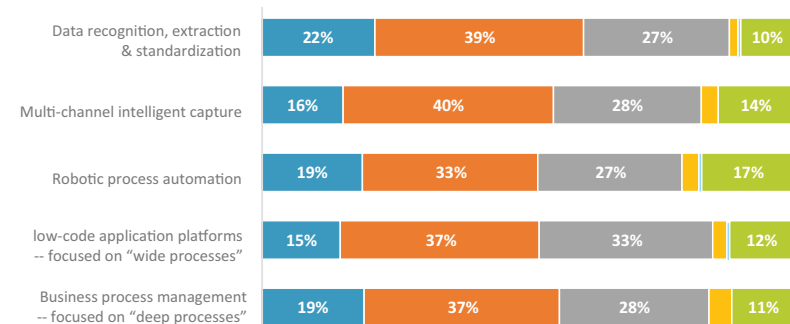
Describe your organization's current experience with each of the following solution technologies.

■ We have a solution(s). ■ We are talking to vendors about a potential solution.
■ We are researching this area. ■ This is not on our radar screen right now.



How do you anticipate your spending plans will change over the next 12 months for each of the following technologies (vs. what you are CURRENTLY spending)?

■ +30% ■ +10% ■ no change ■ -10% ■ -30% ■ no current or future spending plans

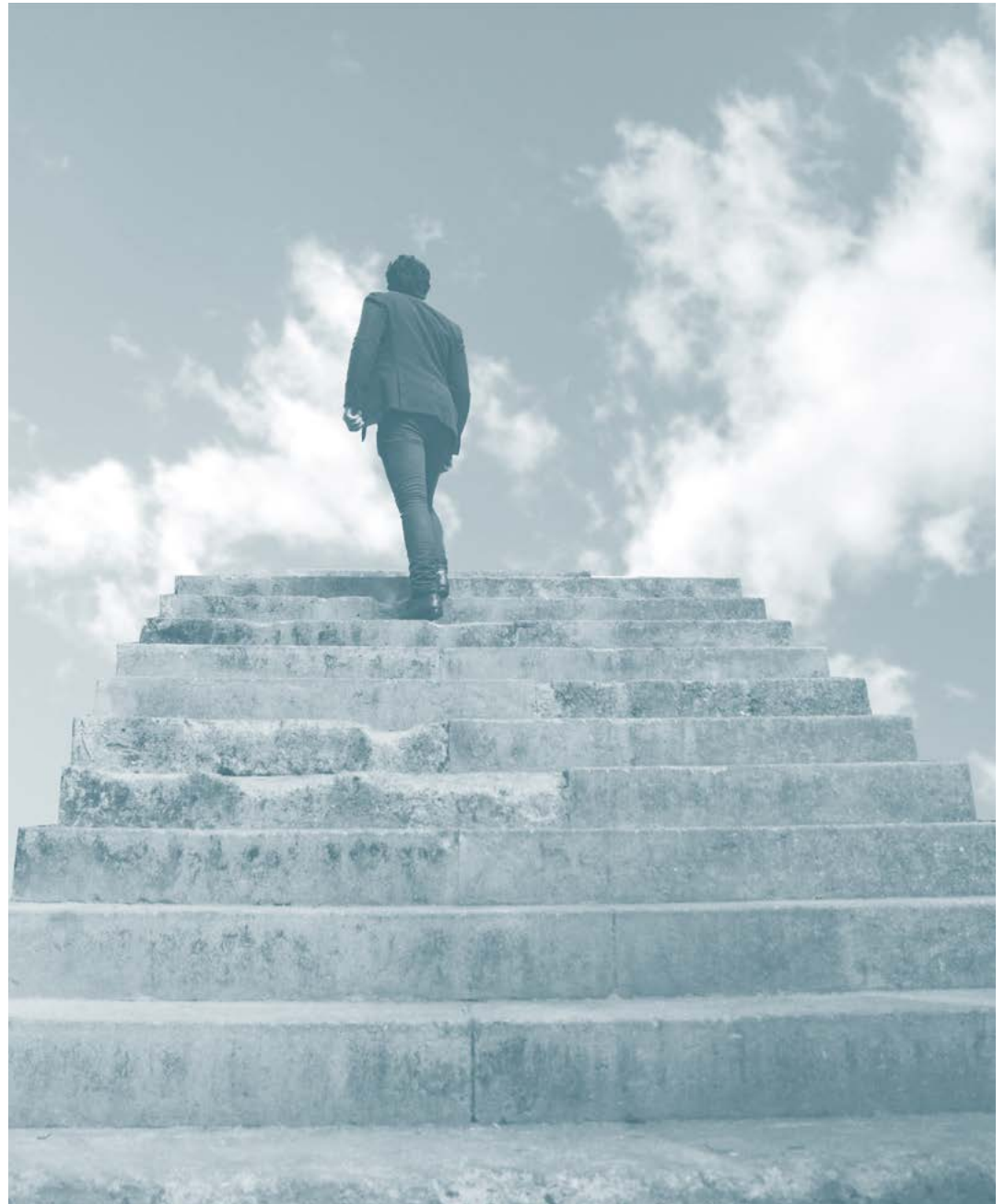


Next steps

There is clearly a drive reflected in this and other AIIM surveys toward modernization of information and process platforms. This does not mean that ECM and BPM tools failed; in fact, quite the opposite. The success of ECM and BPM technologies in automating large-scale, document-intensive, mission-critical processes set the stage for the next generation of process automation and the expansion of these capabilities into the mid-sized market. These technologies solved — and continue to solve — key process problems and organizations are reluctant to disrupt them.

At the same time, the pace of technology change and the threat of more nimble and agile disruptive competitors is driving organizations to modernize their information infrastructure, and therein lies the problem.

Modernizing while sustaining critical legacy applications is a challenge — somewhat akin to rewiring the house without turning off the electricity. This is where technologies like low-code applications platforms and RPA can play a key bridging role.



DEVELOPED IN PARTNERSHIP WITH:

Hyland®

About Hyland

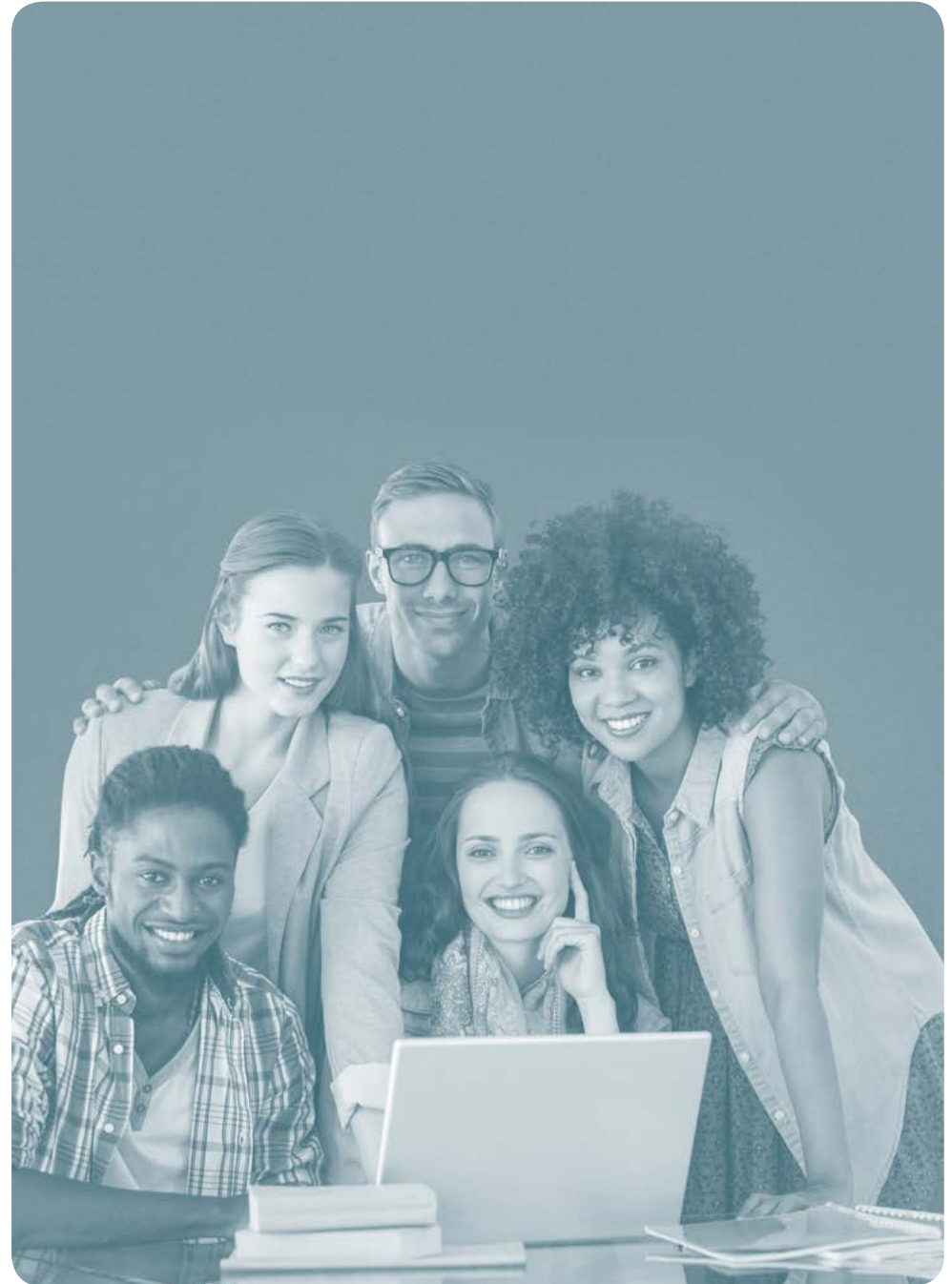
Hyland

28500 Clemens Road
Westlake, OH 44145
United States
www.hyland.com

Hyland is a leader in providing software solutions for managing content, processes and cases for organizations across the globe. For over 25 years, Hyland has enabled more than 19,000 organizations to digitalize their workplaces and fundamentally transform their operations. Named one of Fortune's Best Companies to Work For® since 2014, Hyland is widely known as both a great company to work for and a great company to do business with.

To learn more visit

<http://www.OnBase.com/LowCode>





Why Join AIIM Now?

When you become an AIIM member, you gain access to our premium resources AND you connect with a vibrant community of Information Professionals.



Low-Code and No-Code is all about the agility of business and being able to make quick adjustments in response to changes in the business environment. As an agile user, you'll want to unlock on-demand access to all of AIIM's self-serve research, content, project-based tool kits, and more. Become a member of AIIM and get the info and tools you need when you need them!

For further information [click here.](#)



Here at AIIM, we believe that information is your most important asset and we want to teach you the skills to manage it. We've felt this way since 1943, back when this community was founded.

Sure, the technology has come a long way since then and the variety of information we're managing has changed a lot, but one tenet has remained constant. We've always focused on the intersection of people, processes, and information. We help organizations put information to work.

AIIM is a non-profit organization that provides independent research, training, and certification for information professionals.

© 2019

AIIM

8403 Colesville Road, Suite 1100
Silver Spring, MD 20910, USA
+1 301 587 8202
www.aiim.org

AIIM Europe

Office 1, Broomhall Business Centre,
Worcester, WR5 2NT, UK
+44 (0)1905 727600
www.aiim.org

