OMDIA UNIVERSE

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Author(s):
Michael Azoff, Chief Analyst, Cloud Native Computing

Omdia Universe: No-Low-Pro AppDev Platforms, 2025

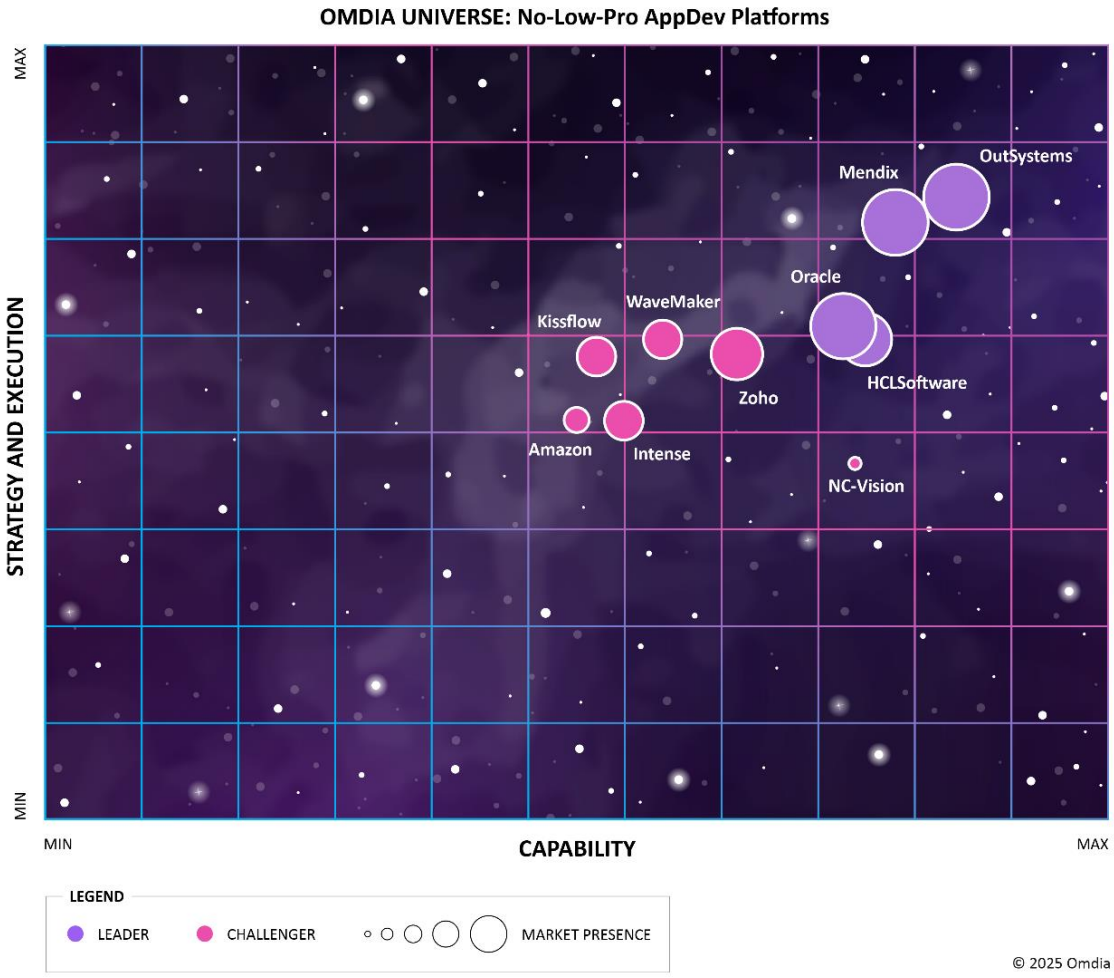
OMDIA

Summary

Catalyst

Software development assisted by high productivity tools has been a niche segment of the market for decades. Since the industry has embraced the latest generative artificial intelligence (GenAI) and large language models (LLMs), this space has entered the mainstream. Omdia has split this market into two distinct camps: standalone application development platforms and tools that plug in to popular integrated development environments (IDEs). This Universe covers the former, and the latter is covered in a companion Universe produced concurrently with this report (see ***Further reading*** for a link).

Figure 1: The Omdia Universe for No-Low-Pro AppDev Platforms, 2025



Source: Omdia

Omdia view

Market segmentation

AI-assisted software development tools are split into two distinct categories: standalone application development (AppDev) platforms and assistant plug-ins to popular IDEs. The platform solutions (this report) cater for the full spectrum of no code, low code, and professional coding, which Omdia labels the No-Low-Pro coding spectrum. These tools provide a complete environment designed to reduce the difficulty for citizen developers to build applications (*citizen* refers to business domain experts who have some basic knowledge of programming). Professional developers also find these tools useful for kick-starting projects and quickly generating apps. This is the reason that Omdia uses the No-Low-Pro label, as the boundaries have blurred between the developer types exploiting these tools. However, different vendors have distinct developer targets; in this report, Omdia specifies who the target audience is for each vendor solution assessed.

The AppDev platform space has two further nuances:

- Some tools are strictly no code tools—there is no access to the underlying code.
- Some make use of visual modeling environments to build applications using prebuilt components that are dragged and dropped to create the model.

Again, Omdia clarifies which of these subcategories the assessed tools fall into.

The companion Omdia Universe, *No-Low-Pro IDE Assistants, 2025*, covers tools that work with popular IDEs, and these environments can be intimidating to citizen developers. So, while this category has low code, or even no code capabilities, they are more likely to be used by experienced developers who use these features to reduce the application production time.

The impact of AI in software development

The disruption of this AppDev development space by AI was identified in the previous *Omdia Universe: No Code, Low Code Solutions, 2023–24* report. In this current Universe, AI is firmly established, and vendors are looking at the next stage of AI evolution: agentic AI. The term *agentic* has multiple interpretations depending on which market/discipline is being addressed. When discussing this term with vendors in this report, it typically means there is an orchestrating AI that manages AI agents that have specific skills and can create a complex process flow beyond the capabilities of a single AI agent.

However, while agentic is on the roadmap of many vendors, what we see in current solutions is a fulfillment of AI capabilities such as:

- Creating advanced context awareness with retrieval-augmented generation (RAG) and fine-tuning techniques applied to a private codebase.
- Developing a chatbot where natural language instructs the AI engine to create code; AppDev platforms can create pre-prompts that enhance direct prompts from the user.
- Converting code from one language to another, as well as modernizing code from a legacy version to a current version.
- Having AI explain code and document code, including adding comments to the codebase.
- Performing code reviews and code optimization.

- Automating code testing and improving code test coverage.

With an AppDev platform, it is possible to exploit the latest AI innovations with guardrails and built-in security that avoid the hazards of hallucinations. A key technique to reduce hallucinations is to provide enhanced context. The vendors participating in this report differ from developers who simply query an LLM directly by ensuring pre-prompts contain context such as information from private codebases (such as the organization's codebase).

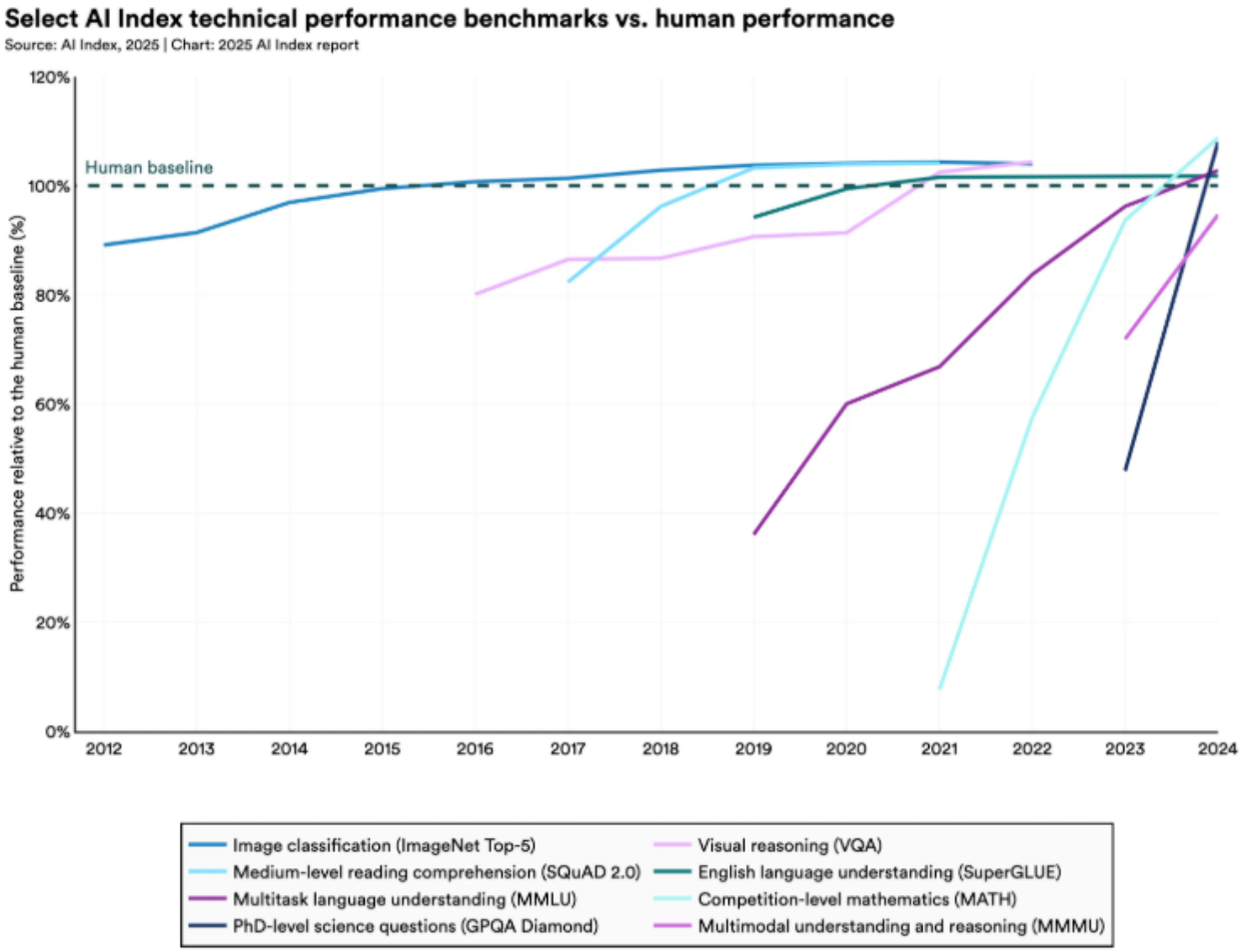
Furthermore, an AppDev platform can internally test the output of its AI engine without exposing the raw output to the user. Omdia believes that AppDev platforms provide a more productive environment than simply asking a popular LLM to generate code. Checking and maintaining code is an onerous task that requires less work when using an AppDev platform that automatically performs testing. Some of the solutions assessed in this report have no code accessible to the user; the solutions automate the application creation and fully automate the use of AI.

Omdia spoke with customers using the tools covered in this report, and certain patterns emerged in how the tools performed. Productivity increased due to automated code generation. Testing is a chore that many developers do not like, so having AI-based automation take over this task increased the amount of testing produced and enhanced test coverage. A key improvement in software quality resulted in the tools being used for code reviewing and optimization. Onboarding new developers was made easier with these tools, and they were able to learn faster and with less handholding from experienced developers, who generally only needed to attend to matters related to business application logic. The role of experienced developers was vital for having a holistic understanding of the application from both a business requirements aspect and how code changes affected module/class/service dependencies. Experienced developers found these tools freed up their valuable time.

Finally, there is the question of artificial general intelligence (AGI), where the machine has human-level intelligence. The latest generation of LLMs has remarkable qualities and capabilities, displaying human-like interactions and excellent skills when the tasks are well-defined. Stanford HAI's latest survey of LLM performance against a range of benchmarks is shown in **Figure 2**, and it highlights how the best models surpass human capabilities.

However, there is still a gap between this level of AI and AGI. Software developers and engineers must provide the vision, planning, and understanding of the business context and requirements, which LLMs today do not possess. This could change. Agentic AI systems may bring AI capabilities nearer to AGI, and in time, Omdia believes AGI will be achieved—but we are some years away from that eventuality.

Figure 2: LLM performance across a range of benchmarks, 2012–24



Source: AI Index Report 2025, Stanford University, with permission

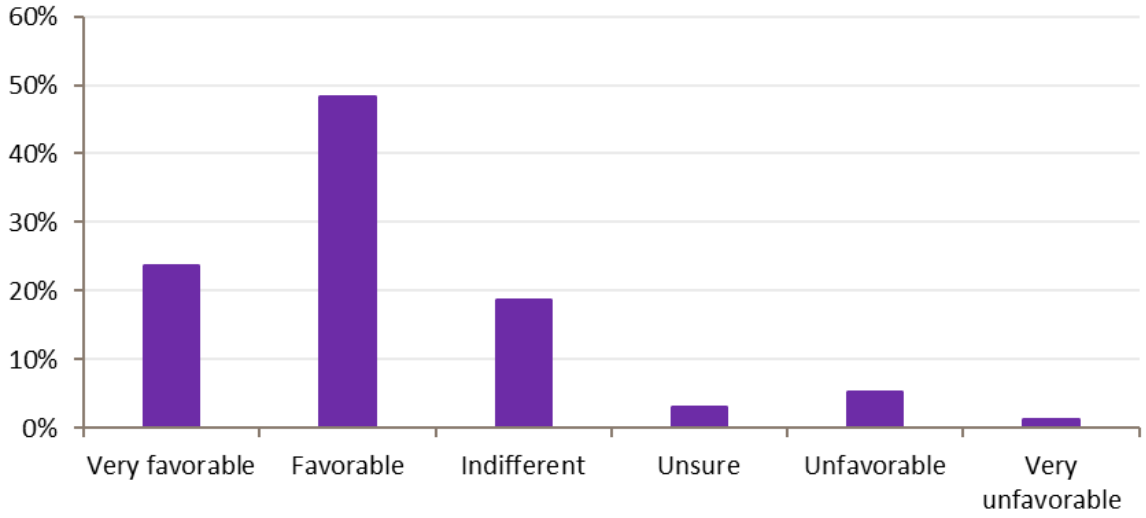
The impact of AI on software industry jobs

There is evidence in current job surveys at the time of writing (and looking at the last decade) that job postings with words such as *computer programmer* and *software programmer* have been in decline since the advent of LLMs. In contrast, job descriptions with the keywords *software developer* and *software engineer* are rising in demand. Whereas programming is a narrow function that typically requires coding to a specification and debugging code, the developer or engineer role embraces wider software development lifecycle functions, from requirements gathering, architecture, and design to build, test, and deploy. The current generation of AI in the AI-assisted software development space is encroaching on the computer programmer role, while the human developer/engineer role is in demand.

There is a consensus among the software developer community that coding tools such as those assessed here provide a productivity boost. A large survey conducted by Stack Overflow asked developers whether they were in favor of AI tools; the response was overwhelmingly positive (72%), with only 9.4% having unfavorable views (18.7% were indifferent), as shown in **Figure 3**. The benefits for the business are that applications are built faster, respond faster to market demand, and reduce the cost of application development. Omdia believes it is important to keep experienced developers in their jobs as they are best placed to ensure the output from AI engines meets high quality standards. While novice programmers or

developers can generate a lot of code with tools, assessing the relevance and quality of that code requires experience, as does application design and project planning. The benefit of AppDev platforms, as assessed here, is that they perform a greater degree of quality checking and testing than working directly with LLMs.

Figure 3: AI 2024 Stack Overflow Developer Survey – How favorable is your stance on using AI tools as part of your development workflow?



Notes: n=45,873

Source: Omdia, data from Stack Overflow AI Developer Survey 2024

Analyzing the No-Low-Pro AppDev Platforms Universe

Market definition

Omdia has segmented the market into two distinct categories: AppDev platforms, which are standalone tools that do not need an IDE, and tools that plug in to IDEs. There is some overlap in functionality between these two categories, but the key difference is that the IDE is an environment in which professional developers work; even though the plug-in can provide additional interfaces, it is probably too complex for citizen developers. AppDev platforms provide greater control over what is presented to the developer, and typically this is the preferred environment for no to low code tools.

Model-based development tools appear in the AppDev platform category and offer a visual environment in which the developer drags and drops components and defines a workflow. Typically, there is some low code capability for defining the business application logic. Pure no code solutions are visual model-based.

AI has been rapidly adopted in this industry and provides a high degree of automation to enable developers to deliver applications faster than ever before. Omdia is not prescriptive about how a vendor achieves its automation; it is the outcome that should be evaluated. However, the state of the art in coding automation

is a mix of rules-based engines, machine learning, and the latest GenAI in the form of LLMs. A key characteristic of an LLM is the improvement in human-machine communication, so a developer can request a task to be performed using natural language. We therefore assess AI features in the extended features contribution to the Universe chart x-axis.

The ***Appendix*** section provides a high level summary of topics on which Omdia assesses No-Low-Pro solutions, reflecting key solution capabilities.

Market dynamics

This report focuses on the top end of the AppDev platforms market that targets enterprises. The market consists of pure-play vendors (OutSystems, Intense, Kissflow, NC-Vision, and WaveMaker), solutions from technology companies (Mendix is part of Siemens, HCLSoftware is part of HCL, Oracle, and Zoho), and solutions from cloud players (Amazon). Moreover, while all but one solution spans the spectrum of suitability for no code, low code, to professional coding, the exception is NC-Vision, which offers a pure no code solution using a visual modeling interface. See the individual vendor profiles for more details on how their solutions lie in this spectrum and what their dependencies are in terms of running created applications.

In 2023, Omdia published the *Omdia Universe: No Code, Low Code Solutions, 2023–24*, and this report (and its companion) is an update of that Universe. However, as mentioned above, Omdia sees the boundary between no, low, and pro development blurring. While no code and low code are clearly aimed at citizen developers whose day job is running the business and not professional computer programming, these tools are also useful to professional developers. Omdia has found that the AppDev platforms can be less intimidating to citizen developers compared with solutions that are IDE plug-ins, and readers are urged to consult the companion report (*Omdia Universe: No-Low-Pro IDE Assistants, 2025*) for more details of those products.

Returning to this topic in this report has allowed Omdia to reflect on the latest AI capabilities that are now available in the AppDev tools market. The theme is clearly AI-assisted software development, and the leading capabilities are based on the latest advances in AI. Thus, AI is represented far more strongly in this assessment compared to the previous Universe. Given the importance of AI today, Omdia also assesses whether a No-Low-Pro solution has features that allow machine learning (ML) and the latest GenAI to be embedded as part of the solution in the application being built.

Thus, exploiting LLMs is a key feature in this solution set. Some vendors are more advanced than others in augmenting the selected LLM with RAG, although most have these on their roadmap. RAG enables an LLM to answer a query with augmented information sourced from an external knowledge base that is not used in its training. For example, a private corporate codebase can be mined in coding queries, and the augmented information is combined with the query to provide an improved solution. This approach makes use of vector databases to convert the knowledge source into a format easily fed to the LLM. RAG can prevent an LLM from hallucinating by providing improved context.

The other major technique for improving an LLM's performance is fine-tuning. This involves retraining the LLM on a relevant dataset, again to enhance the context and reduce hallucinations. Retraining an LLM with labeled data is a significant undertaking, so it is not typically available in a No-Low-Pro solution. However, an enterprise may wish to enhance its own LLM (or, more typically, an open source one) with its private data in this manner, so AppDev platforms that allow users to bring their own LLM have become an important feature.

Market assessment

Omdia's analysis led to four vendors being selected as leaders and six vendors being selected as challengers (**Figure 4**). The Universe chart (**Figure 1**) shows the results of Omdia's assessment.

Figure 4: Vendor rankings in the No-Low-Pro AppDev Platforms Universe

Vendor	Product(s) evaluated
Leaders	
HCLSoftware	Volt MX
Mendix	Mendix
OutSystems	OutSystems
Oracle	APEX
Challengers	
Amazon	AWS App Studio, AWS Amplify
Intense	REASY
Kissflow	Kissflow
NC-Vision	NC-Vision
WaveMaker	WaveMaker
Zoho	Creator

Source: Omdia

Market leaders

The market leaders appear in a cluster in the top right of the Universe chart and have outstanding performance in the assessment dimensions. Omdia expects all the leaders to perform well on core development. However, to perform well in extended features, they need to offer the latest AI code assistance. The leaders in this Universe have these features and further enhancements on their roadmaps. Omdia also assesses the breadth of the offering, and again, leaders are expected to offer lifecycle management, performance management, and more. We also expect to see the best examples of go-to-market strategies, customer support, and peer-to-peer scores. For the latter, Omdia inspects publicly available feedback on peer-to-peer websites. In assessing innovation, leading vendors are more likely to have patents accepted or pending. Omdia recommends that leaders should automatically appear on a prospective customer's shortlist.

Market challengers

Challengers can be more focused on particular market segments with a slightly narrower feature range or are earlier in their maturity cycle and have yet to build out the full spectrum of features that leaders possess. With the right market momentum and feature maturity, Omdia expects some challengers to move up to the leader ranking. In our opinion, challengers should be shortlisted when their strengths match the customer's requirements.

Market prospects

In this Universe report, none of the solutions fell under this category.

Opportunities

The use of AI-assisted software development is now mainstream, with either dedicated AppDev platforms or IDE plug-ins; developers cannot miss the presence of these tools. Enterprises are adopting these tools to improve the productivity of their workforce, and some customers that Omdia has spoken with talked about changes in their recruitment plans as a result of this technology. There is reduced pressure on the central IT department, as citizen developers in line-of-business are able to own application development for their needs. Empowering the business to achieve more with faster production of applications and higher quality software, which reduces maintenance overheads, is a win-win for organizations.

The market is crowded with solutions (there is a long tail of small, niche players), and Omdia expects rationalization to take place at some point. However, the demand for application development is so high that it will be some years before this happens.

The key opportunity in this space is how to leverage AI to produce new processes that are designed for automation from the start, bypassing business processes that rely on paper or antiquated computer systems. Rethinking back-office, as well as the frontend, applications is a huge opportunity for businesses to differentiate themselves in the market.

Threats

The biggest threat to this new generation of AppDev platforms is the lack of job security for software developers. Omdia recommends that software developers acclimate to the new generation of tools and learn to become more productive using these tools.

There is also a threat to businesses that fail to embrace the opportunities that AI-based application development can offer and, as a consequence, lose market share to faster-moving competitors. The AI genie is out of the box and cannot be put back in—it is now a question of learning how to exploit this technology to best advantage to stay alive in the market.

Market outlook

There is rapid progress in this field on several fronts, and there is strong enterprise demand for the rapid adoption of AI-assisted software development tools. The capability of AI is improving year on year, and we expect this to continue. Eventually, it will plateau, and Omdia believes a step change in technological innovation will be needed to raise the standard of AI toward human-level intelligence. Omdia believes that this will be achieved, and one estimate puts it around 2040 based on Moore’s Law continuing its pace through hardware accelerators such as high-end graphical processing units (GPUs). Energy consumption in data centers supporting the training of AI models may become a limiting factor; one possibility is that AI research takes a turn toward neuromorphic computing, which consumes considerably less energy.

In the near term, the mainstream use of AI-assisted software development tools will become entrenched. These tools will improve and achieve more with no code and low code capabilities. Software developers should seek to grow their skills in the wider aspects of the software development lifecycle in areas where automation is weak.

Vendor analysis

Vendor accolades

Within the vendor analysis section, there are two types of accolades that can be awarded to vendors:

- The **Best in class** accolade is awarded to the vendor(s) with the highest score (highest outright, tied highest, or within <1% of the highest score) for each of the scoring categories that make up this Universe topic:
  - Core development
  - Extended features
  - Solution breadth
  - Strategy and innovation
  - Market momentum
  - Vendor execution
- The **Top-tier** accolade is given to vendors falling within the upper tercile (top third) of the scores within the comparison group for each of these same scoring categories.

Oracle, Omdia recommendation: Leader

Oracle should appear on your shortlist if you are working with data—especially a lot of data—as this first-class application builder runs inside an Oracle Database.

Product: Oracle APEX

On No-Low-Pro coding spectrum: Some No, mostly Low to Pro

Where applications can run: Anywhere where an Oracle Database can be deployed and uses a thin web listener

Overview

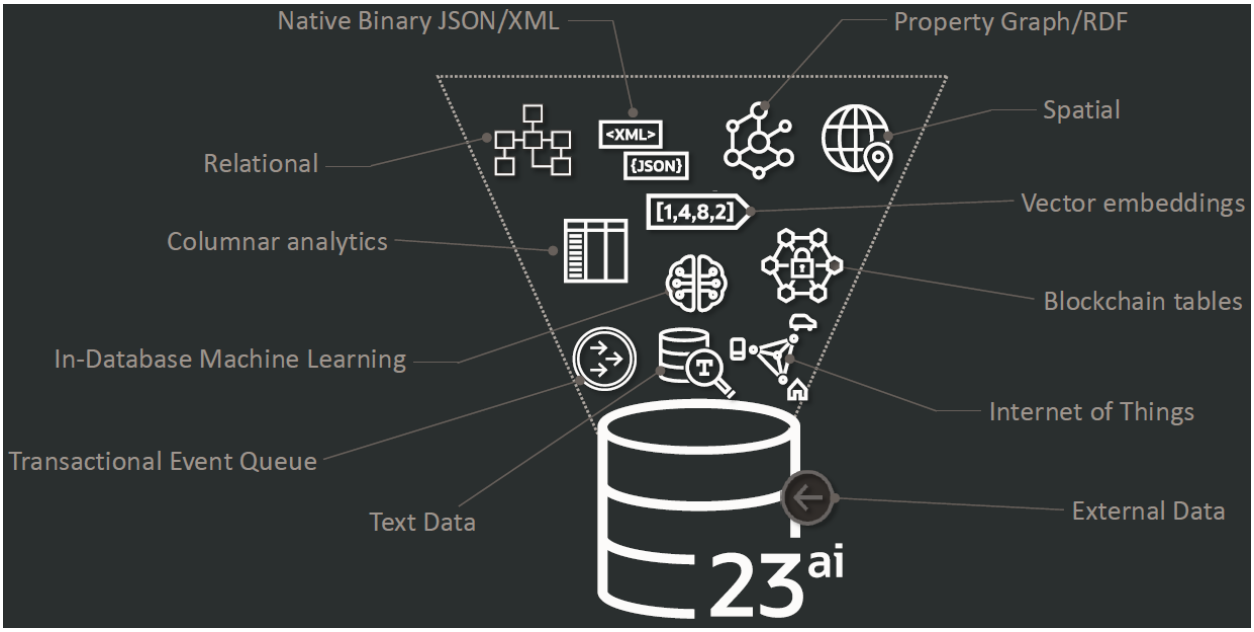
Oracle APEX, the low code application development platform, is a key strategic product in Oracle's portfolio. The company relies on APEX for many internal use cases. For example, the Oracle developers' forum app handles over a million hits a day, and APEX is Oracle's key offering for application developers. Oracle has four key focus areas for APEX:

- Ensuring enterprise suitability
- Enabling development assisted by AI
- Embedding AI in applications to create new capabilities
- Extending SaaS applications

Note that the GenAI capabilities in APEX come out of the box at no extra charge.

APEX comes with an Oracle Database, which means developers can immediately benefit from the company's converged database that encompasses many varieties of database types (**Figure 15**). This arrangement benefits from enterprise-grade security built-in and the scalability and performance capabilities equated with the Oracle Database, as well as governance and self-service provisioning support. Anyone in the customer's organization can have access to the workspace and build applications with APEX.

Figure 15: Oracle 23ai Converged Database – all accessible with SQL



Source: Oracle

The converged database is programmed with standard SQL (including PL/SQL) with some additions where necessary (e.g., semantic similarity searching with the recently added vector embeddings). Wherever data is required, SQL is used—and AI assistance can generate the SQL. The APEX-generated SQL code can be inspected by the developer and modified if desired. Moreover, the AI feature can provide help at any point. The user can choose from an LLM frontier model from OpenAI, Oracle Cloud Infrastructure (OCI) AI, and Cohere. Additional LLMs are on the roadmap.

A new addition is an easy-to-use visual workflow, which is also extensible (e.g., to build custom activity plug-ins). Applications can also use the workflow to visualize the current state of a business process. Emails and push notifications are automatically set up, so the developer just needs to specify the message and target username.

There are multiple security features available, including the following:

- Oracle Database data security scheme
- Multiple built-in authentication schemes
- Declarative authorization scheme definition, assignment, and enforcement
- Encrypted session state and storage encryption at rest
- Secure REST services and encrypted push notifications

- APEX Advisor and code scanning (e.g., Oracle SQLcl, a SQL command line that has in-built scanning)

For example, fields on an APEX page can be seen only by those users authorized to view them. The APEX Advisor highlights violations of best practices, producing a report with links to lines of code that may be an issue. Users can export SQL to be scanned with external tools, including Oracle SQLcl. In addition, the open source APEX-SERT provides additional vulnerability checking and explains how to resolve an issue, and a third-party tool from Recx called ApexSec offers vulnerability scanning.

APEX has scalability on the cloud, whether it is Oracle's own OCI or partners such as AWS, Azure, and Google, and it can run on-premises. For clouds that need to be localized, Oracle has over 55 global data centers, of which 12 have Azure interconnects.

A recent addition to APEX is declarative OpenTelemetry, which allows APEX apps to work with any metrics and analytics. Due to OCI Metrics, the developer can access the telemetry available in the embedded database. APEX operators have a governance dashboard that lets them monitor activity, bottlenecks, runtime alerts, SQL performance issues, and more. There is also a graphical control center with views of metrics.

The latest APEX includes a host of new AI-enabled development features. In addition to GenAI assistance for SQL and general coding, GenAI assistance is available for creating data models, building apps, and creating conversational interfaces. APEX AI Assistant can be asked to generate SQL, which the user can select and copy into their app. The Assistant can be asked to refine the query and iteratively develop sophisticated applications. There is also a Quick SQL environment for visualizing data models with entity relationship diagrams associated with the app.

Applications can be kick-started with the AI Assistance for App Building, which lists options for creating an app with an app wizard using GenAI, from a file, from Quick SQL, by copying an existing app, or by selecting from an apps gallery. APEX uses auto-complete to speed up coding, it can embed multiple languages (SQL, PL/SQL, JS, HTML, and CSS), and it supports static analysis. On the roadmap, APEX Lang will enable more conversational development with finer detailed specifications and more formatting options. It will use declarative grammar that offers easy readability, with syntax completion and validation in VS Code using the formal grammar, as well as easy editing and merging in the developer's favorite code editing/merging tools.

Developers can also add AI to their APEX applications to provide AI-powered chatbot interfaces and other innovations. APEX can add semantic similarity searching with vectors to improve data retrieval. Oracle supports the Open Neural Network Exchange (ONNX) open standard for AI models, so users can bring external vector models or use the built-in vector database available with Oracle 23ai. There is semantic similarity searching for RAG, enhancing the GenAI model with private user data.

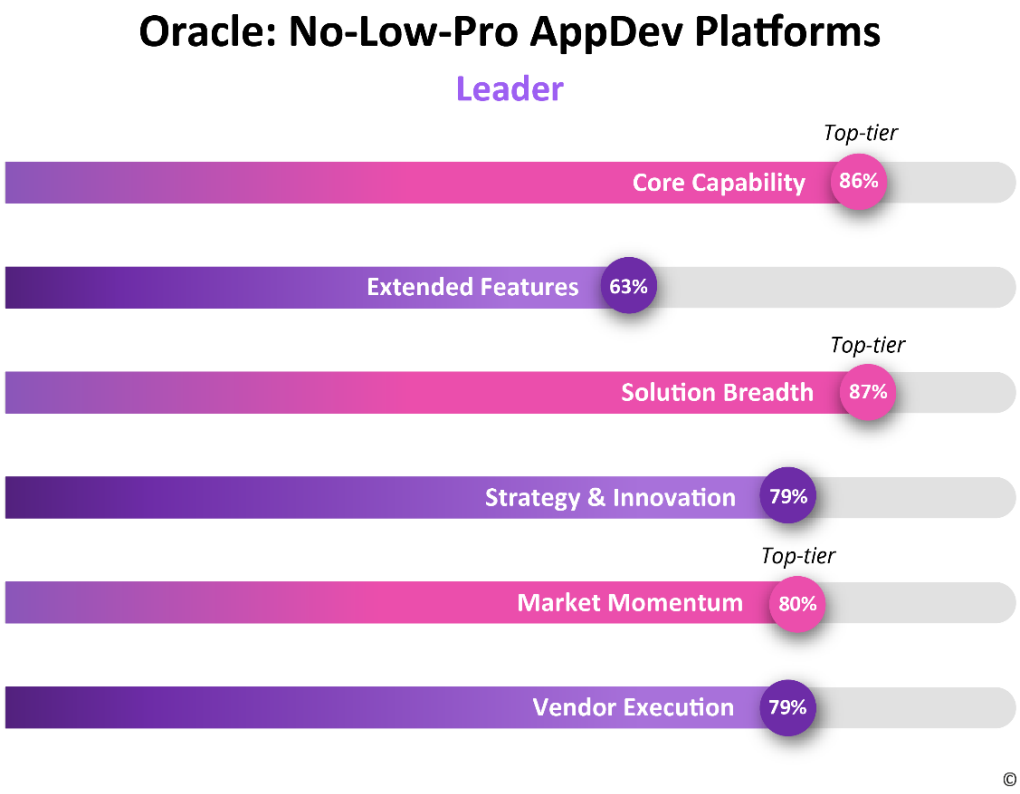
For chatbot interface applications, the developer selects the Show AI Assistant in APEX IDE. There is a setting to determine what types of questions the chatbot should answer and not answer, and how the dialog is to be displayed. Oracle demonstrated how to enable doctors to save time on paperwork by ingesting relevant information from files and creating a patient discharge letter. The user can select from different LLMs to generate the letter and see the differences in style, then select their preferred model. The model selection is all automated at the click of a button. The user can also see the SQL that was used to generate the prompt that was then sent to the LLM.

APEX can be used to extend SaaS applications; it supports multiple data sources such as MySQL, OData, and REST API data. An interface allows users to select the source data and test data retrieval. APEX can be used

to extend Oracle Fusion applications with one-click integration; there is an option to create Fusion integration and generate an application.

Figure 16 depicts the performance of the Oracle solution in the assessment categories.

Figure 16: Omdia Universe ratings—Oracle



Source: Omdia

Strengths

- Oracle has invested in taking APEX to the next level, and Omdia has rated it a leader in the AppDev platform market. One of its important differentiating strengths is usage-based pricing for the APEX service with no limits on developers, apps, or end users. A company pays only for storage and CPU used, like paying for gas or electricity. If a customer is already an Oracle Database customer, then Oracle APEX is free.
- The tool brings rapid application development to a modern setting with AI assistance, and this includes using RAG for improved context awareness, reducing the risk of LLM hallucinations.
- The use of AI enhances the development experience using natural language to set tasks and automate the generation of custom business logic and data retrieval statements. For example, natural language can be used to create SQL queries, a great help for users with minimal SQL experience.

Limitations

- APEX works through an instance of the Oracle Database, so it can be deployed only where the database can be installed. The generated applications run inside the database and use a runtime or server.
- The languages that APEX works with are limited to OCI languages (SQL, PL/SQL, JavaScript, HTML, CCS), which may be restrictive for some users.
- APEX may not be the right tool for highly complex user interface screens that require a lot of custom manual coding. Oracle points out that APEX pages can be extended with HTML, CSS, and JavaScript by a pro user. For most applications, non-pro developers can quickly deliver business value, and the APEX community has many reusable plug-in components.

Appendix

Methodology

Omdia Universe

Omdia's rigorous methodology for a Universe involves the following steps:

- Omdia analysts perform an in-depth review of the market using Omdia's market forecasting data and Omdia's enterprise insights survey data.
- Omdia creates a matrix of capabilities, attributes, and features that it considers to be important now and in the next 12–18 months for the market.
- Vendors are interviewed and provide in-depth briefings on the current solutions and future plans.
- Analysts supplement these briefings with other information obtained from industry events and user conferences.
- The Universe is peer-reviewed by other Omdia analysts before being proofread by a team of dedicated editors.

Inclusion criteria

Omdia provides a high level summary below of topics that reflect key solution capabilities. These are also the topics that drive our assessment of the No-Low-Pro AppDev Platforms solution comparison.

Solution capability

These aspects are scored on the x-axis of the Universe chart; the below features are for guidance and are not exhaustive.

Core development

- Application development

- Mobile app development
- Form and UI/experience building
- Architecture and cloud native computing
- Deployment
- API and data services
- Scalability
- Security and access control

Extended features

- Use of AI assistance in modeling/coding
- AI natural language interface
- Synthetic data generation
- RAG capabilities
- Embedding AI in applications
- AI-based testing
- Extended testing capabilities

Solution breadth

- Applications supported
- Performance monitoring
- Messaging and communications
- Application lifecycle management
- Compliance
- Analytics, dashboard, and reporting

Strategy and execution

These aspects are scored on the y-axis of the Universe chart.

Market momentum

- Company and product history and maturity
- Net Promoter Score (NPS), if available
- Global reach
- Vertical and horizontal focus
- Revenue and annual growth
- High level customer-related questions

Strategy & innovation

- Technological innovation
- Roadmap
- Licensing
- Target market and users
- Deployment options
- Competitive differentiation

Vendor execution

- Partner and systems integrator ecosystem
- Technology partners
- Customer support
- ROI
- Peer-to-peer customer score

Market penetration

This metric scores the size of the circle (z-axis) on the Universe chart.

- Revenue-based metric

Further reading

Omdia Universe: No-Low-Pro IDE Assistants, 2025 (May 2025)

Omdia Market Radar: AI-Assisted Software Development, 2023–24 (January 2024)

Omdia Universe: No Code, Low Code Solutions, 2023–24 (September 2023)

Generative AI: The impact of AI-based autocoding on software development (March 2023)

Author

Michael Azoff, Chief Analyst, Cloud and Data Center Practice

askananalyst@omdia.com

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