

# LOW- CODE

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The **future** for capital markets  
business applications

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## About the author:



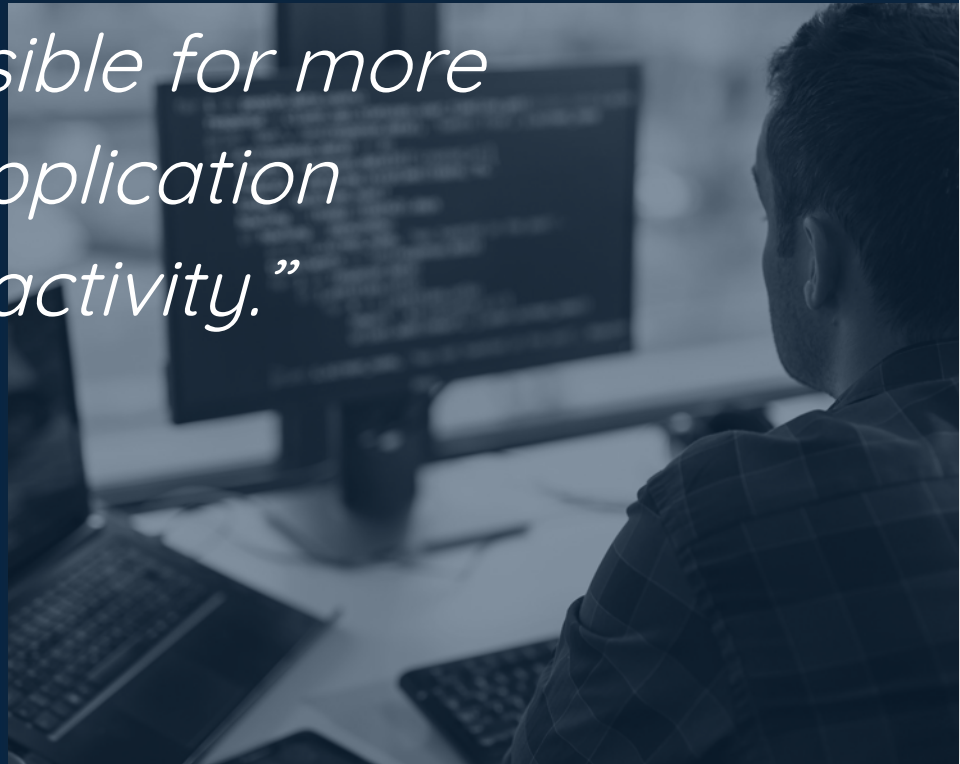
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Prior to Genesis, Mark held a series of senior IT delivery and consulting roles in investment banks, brokerages, exchanges and vendors. With over 20 years' experience in capital markets systems he is well-versed in challenges from strategy, application architecture, data, solution design & development, project delivery through to IT infrastructure - globally.

*“By **2024**, low-code application development will be responsible for more than 65% of application development activity.”*

- Gartner



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## Low-code. High potential.

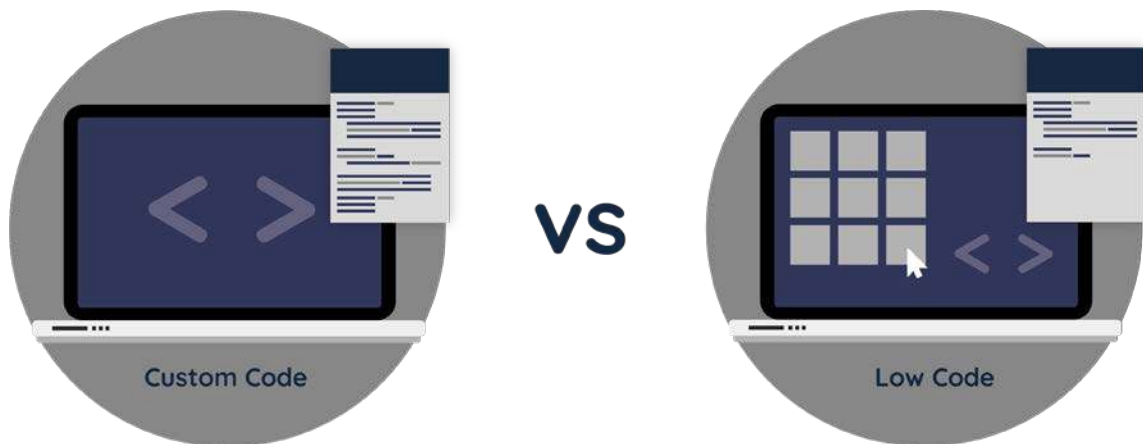
It is faster, more efficient, and is already transforming industries. How can capital markets take advantage of low-code programming?

Low-code programming significantly reduces the lines of code you need to create applications – so you can build, integrate, and deploy faster than ever. It is already expected to surpass

traditional coding as the application delivery platform of choice. Gartner estimates that “by 2024, low-code application development will be responsible for more than 65% of application development activity.”

As capital markets firms face increasing pressure to deliver fast, value-add services, is now the time to make the jump to low-code? In this white paper, we examine the new breed of low-code application

platforms (LCAPs) and whether they can help capital markets firms build new systems quickly and easily, to help them address today's fast-moving trends.



## Six ways low-code will change how you work

- 1 Data model** – inherit and extend standard data models that cater for capital markets business scenarios
- 2 Call, don't build** – call out to a library of standard functions instead of building them
- 3 Drive with metadata** – add functionality by controlling metadata, without the need for coding
- 4 Suggest, correct, auto-complete** – advanced programming environments include graphical tools and code suggestions, plus auto-complete and error prevention
- 5 Improved testing** – automated tools make testing faster and more reliable
- 6 Visual development** – perform parts of the development using visual 'no-code' tools

## 2

# All change: opportunities for capital markets systems innovation

In recent years, firms have spent the majority of their time and coding effort on keeping pace with regulatory change and compliance issues.

That is set to change, and there's a big opportunity for systems innovation in areas such as process automation and delivering superior client service.

If LCAPs are to succeed, they'll need to meet the rigorous and stretching demands of the industry.

## A wishlist for capital markets systems

### Real-time client portals

Moving towards intra-day event processing will put data at the fingertips of clients and enable 'self-service' through portals.

### Automatic API connection

Supporting sophisticated clients being able to interact with their providers via APIs, for post-trade as well as order/pre-trade.

### Rapid engineering for business innovation

IT systems need to enable and support business innovation, by using lighter-weight platforms to distribute new financial products.

### Replace smaller legacy systems

Replacing large or core legacy systems is too expensive and disruptive for most, but firms can replace smaller systems to make some headway in tackling technical debt.

### Innovating around core legacy systems

Firms need to build functionality with 'satellite' business applications that source data from the legacy system, add value outside it, and return results for storage and display.

## Beat the backlog. Up your game.

A huge opportunity creates a huge backlog. IT departments in buy-side, sell-side and market infrastructure firms face a seemingly endless to-do list – and there's only so much you can do with the team and the tools you have.

For all but the largest internal IT departments, demand far outstrips their capacity to deliver.

**The result?** Many firms are falling behind and risking loss of market share.

The situation is not new, but it is intensifying under the twin pressures of revenue compression and the need for rapid digital transformation. IT departments need to up their game.

*“For all but the largest internal IT departments, the demand for innovation far outstrips their capacity to deliver.”*





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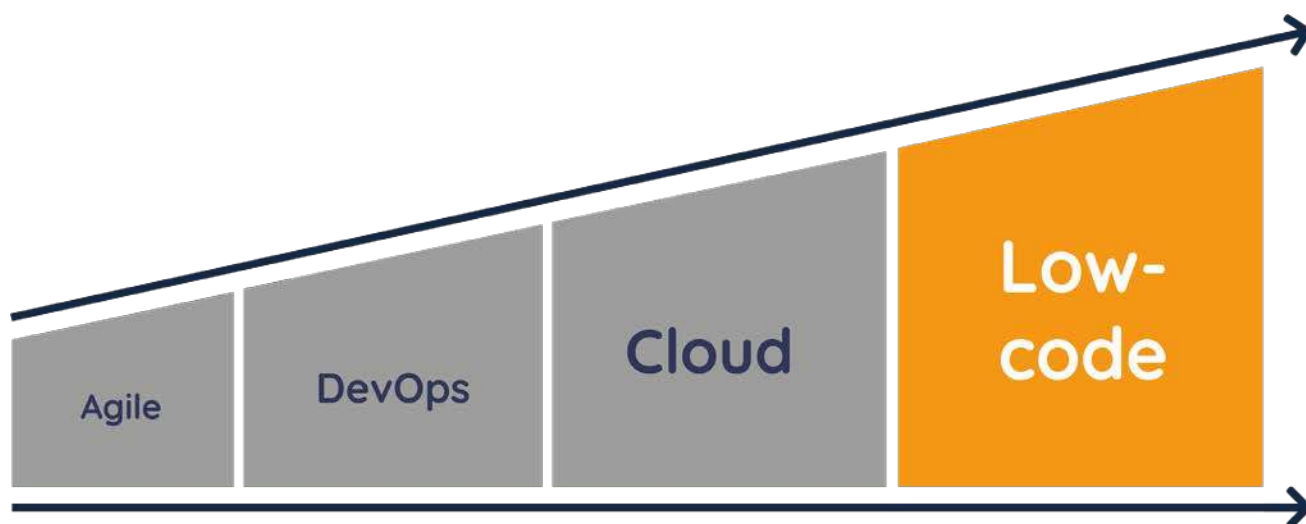
# A short history of big changes

Developments in base technology and processes have improved quality, but not reduced time. That's where LCAPs come in.

## Agile. DevOps. Cloud.

Of course, software development teams around the globe have found new ways to do things better and faster – from switching to Agile methodology and cloud-based computing to improving their development and operations (“DevOps”) processes.

Continuous integration and continuous deployment have made it possible to deploy smaller changes more frequently. And web technology has solved many of the challenges of desktop deployment. All of this improves the ‘responsiveness dimension’ on IT systems delivery.



## Improved quality. Increased time.

The capital markets industry consumes an ever-growing collection of generic base technologies – such as NOSQL, Hadoop, REST, JSON, html5, Microservices and so on – which all add to the scale, sophistication, agility and breadth of new computing techniques.

time and effort it takes to build, deploy, and adapt applications. Firms are as dependent on skilful programmers as they ever were. And the amount of coding necessary to deliver a capital markets business application is as high as it ever was – a shocking reality.

Despite the advances in base technology, little has been done to reduce the overall

*“Right now, firms are just as dependent on skilled developers as they ever were.”*

## LCAPs accelerate everything

Outside capital markets, LCAPs are being used to deliver new applications in record time. They are built on the latest thinking in Agile, DevOps and cloud-based computing, and provide programmers with an environment to create application software through graphical user interfaces and configuration (as well as traditional computer programming).

At the simpler end of the application spectrum, LCAPs allow business staff (nicknamed ‘citizen developers’) to build their own applications – reducing the need for specialist programming skills.

The leading LCAPs have grown out of Business Process Management (BPM) and Robotic Process Automation (RPA) and have extended their capability up the application development value chain.

LCAPs are often used as a service, providing a complete set of tools to support the application development life cycle from inception to live. Alternatively, customer firms can adopt LCAP tools within existing in-house process implementations.



# The challenge: an LCAP to handle capital markets

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There's no doubt that LCAPs are game-changers in the wider industry. Can they achieve similar transformation in application development within capital markets, beyond the non-specific BPM/RPA applications (like client onboarding, client applications and so on)? Let's dig into why it's such a specialist set of requirements.

## From complex specifics...

Capital markets are complicated. An LCAP needs to be ready for applications that handle financial instruments and complex derivative structures, and help firms process orders, trades, portfolios, positions, and valuations with full transaction integrity.

Then of course there's the need for market data and integration with upstream and downstream systems – while providing fully

compliant control over user actions and data visibility. Plus the need to be scalable and resilient.

Can an LCAP do all of this? Yes. A range of capital markets applications have already been built with LCAPs – there's a big opportunity for more.



LCAPs need to meet all these challenges to succeed in capital markets.

### ...to non-functional challenges

An application with decent functionality can be binned all too easily, simply because it fails at the basics. Firms have often spent months fine-tuning the functional requirements of an application only to scrap it because a non-functional aspect fails.

Typical failures include not being able to handle peak transactions throughput, peak market data rates, high end-user query/

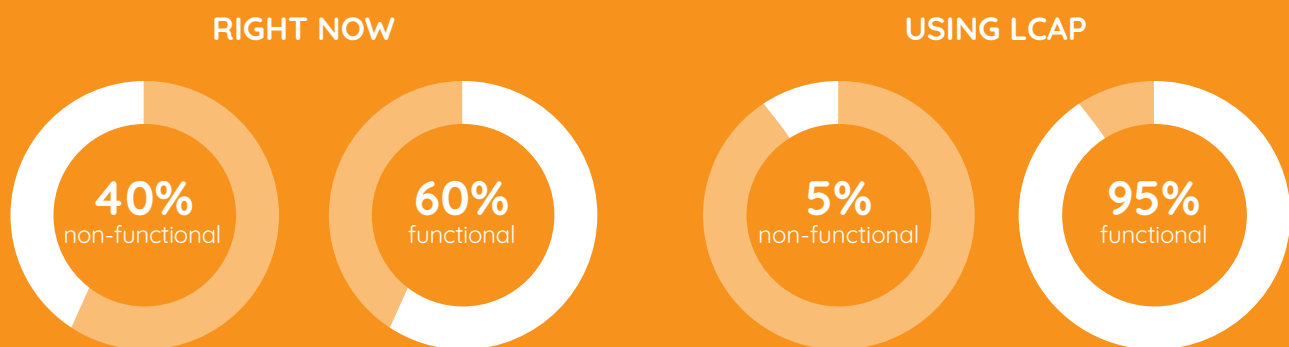
update loads, or cope elegantly with technology infrastructure failures. Some capital markets business applications are considered operational risks because they have insufficient user audit/controls.

All these non-functional requirements are mission-critical – and they’re exactly the kinds of things that an LCAP will get right, as standard.

## Are you wasting time on non-functional needs?

Every application build is different, but on average you'll spend about 40% of the time on building the non-functional requirements. An LCAP can drop that figure to near-zero: you can implement all non-functional requirements without a single new line of code. Traditional methods suddenly begin to look like a giant waste of time – and money.

How you split your time building an application:



### Building your own framework is not the answer

Several larger firms have built in-house 'frameworks' that solve for non-functional needs on a segment-wide basis, allowing individual applications to reuse them.

It's a sensible approach, but often these firms – even the biggest – fail to invest in keeping these platforms up to date with

evolving business needs and changes in underlying base technologies.

Without proper investment these frameworks rapidly become part of the legacy problem themselves.

*“A good LCAP  
can solve non-  
functional specs  
of an application  
without writing  
a single line  
of code.”*

### Approve once. Build forever.

With an LCAP you can move the approval process up a level. Once the first application on an LCAP has been approved by design authorities, InfoSec authorities, software and hardware setup questionnaires, pen testing and so on, subsequent applications can be commissioned without these overheads.

### Five reasons to love LCAP

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- 1 Build once, use many times
- 2 Use developer skills and time more efficiently
- 3 Quicker to build, easier to maintain
- 4 Simplified licensing
- 5 Evolves with base technology

## 5

The million dollar question:

## How do LCAPs integrate with legacy systems?


Integration in capital markets is a big deal. LCAPs will reduce the time you spend on making sure new applications integrate and interoperate with your existing systems.

The typical application stack in capital markets has a service-oriented architecture with many individual applications co-operating, each one delivering a part of the value chain.

Integration work applies on three levels: at the protocol level of an application; to the business specific aspects of handling content from market data and reference

data platforms; and at the level of industry standard core vendor platforms.

All of the integration work takes a lot of time with traditional coding. By contrast, a good LCAP for capital markets will come with tools and reusable components that radically reduce integration coding and effort.



*“LCAPs come with tools  
and reusable components  
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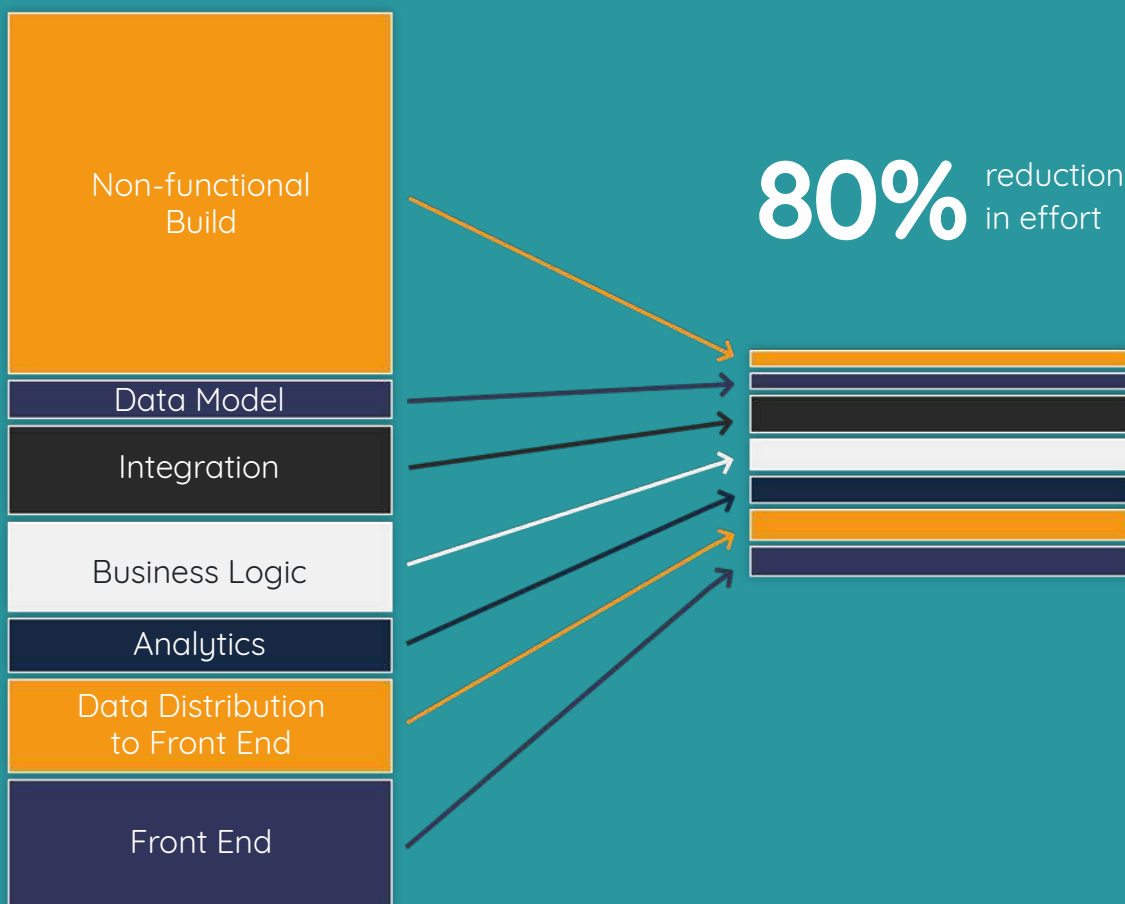


## Low effort, high reward.

LCAP-based development has already transformed business process management (BPM) systems in other industries. Now that LCAPs can handle the complex demands of capital markets firms, it's time to take full advantage of the efficiencies this new paradigm brings. By reducing traditional coding effort by 80%, you can radically improve how you do business.

### Traditional coding effort

### LCAP coding effort





*“LCAPs can do it all at a fraction of the cost.”*

## A new dimension

For capital markets, LCAPs create a completely new dimension in the industry – as they can now replace systems that actually process financial instruments. LCAPs can help capital markets firms address highly complex industry challenges – from wide-reaching regulatory requirements to the limitations of incumbent vendors and software methodology processes. And they can do all of this at a fraction of the cost.

The only question is how quickly firms will catch on to this fast-moving development and use the LCAP paradigm for delivering both an improved customer experience and efficiency gain. The development of LCAPs for transaction-based systems that can process financial instruments is a step change – and now is the time for capital markets firms to take a decisive and transformative stride forward.

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Find out more at **genesis.global**

# About Genesis

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Genesis is a global software company rewriting the rulebook for capital markets. Our unique Low-Code Application Platform (LCAP) is a robust, real-time, scalable framework and toolset allowing you to rapidly build and deliver solutions.

Our LCAP is built specifically for capital markets firms, which face a challenging and constantly changing environment. We help you adapt, innovate, and transform your business and operating models, making it possible to do more with less code in less time.

Find out more at [\*\*genesis.global\*\*](https://genesis.global)

