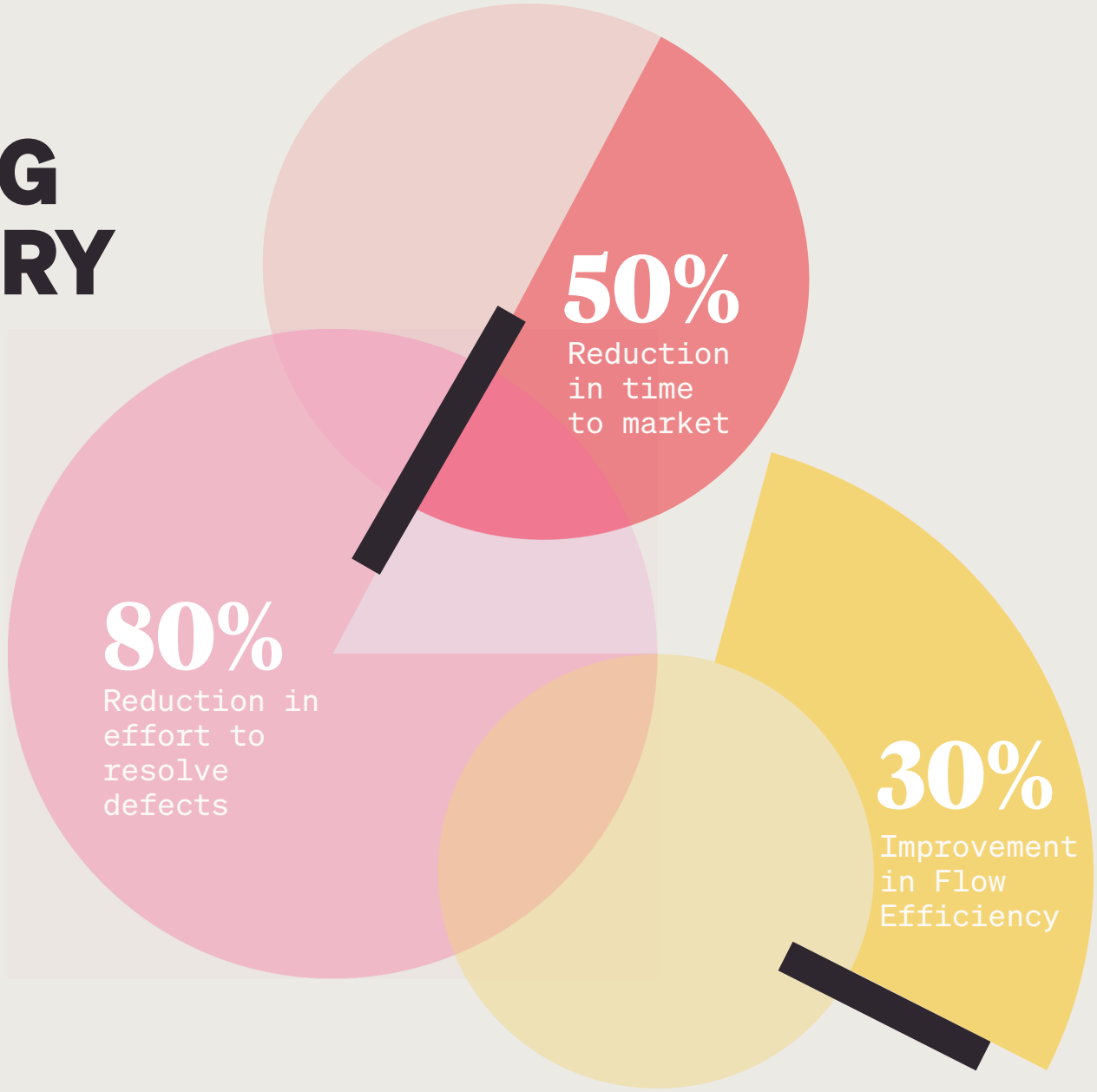
CASE STUDY

IMPLEMENTING A NEW DELIVERY ECOSYSTEM

HYPR is helping an established financial services organisation build a world-class product engineering practice and transforming outcomes in the process.



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CONTEXT

The challenges

Our client is a major financial services business seeking to deliver better value for customers and grow market share. They were facing three key challenges (which will be familiar to most businesses in the sector):

- **Other fintechs found it hard to connect their services to the partner ecosystem. Their API 'shopfront' was old, hard to use and had slow, manual onboarding processes**
- **There were significant software quality issues. The client had a high ratio of testers to developers with 60% of software delivery effort being spent on resolving defects**
- **Time to market was slow – new product features simply took too long to deliver**

These issues were highlighted by Flow Metrics and, because those were connected to business OKRs, the strategic impact of those issues could be seen in the organisation's performance.

Engaging HYPR

It was clear to the client that the root cause of these issues lay in their architecture, technical practices and processes – and the way they fitted together.

Our client approached us to better understand how to meet the challenges, what the work might involve and the outcomes that could be achieved. Critically – but not unusually – the engagement had to be delivered on a tight budget.

A plan to act

We helped the client define a number of experiments that might prove how a collection of new architectural patterns and technical practices could solve their problems.

If successful, these experiments would establish a new 'reference technology ecosystem' that was

- **Optimised for flow**
- **Specific to their financial services context**

This would show what a world-class product engineering practice could look like and lay the path forward from a cultural, risk, technical and architectural perspective. To achieve this, the engagement was framed in three stages:

- **Stage One** – experiments to build a reference delivery ecosystem
- **Stage Two** – actual delivery of low-risk products through the ecosystem
- **Stage Three** – scaling the delivery ecosystem to deliver strategic work through multiple streams and teams

The components of a flow-optimised delivery ecosystem

A delivery ecosystem contains a mix of human (biotic) and technical (abiotic) elements:

Technology and tooling

Environments

Technical practices

Team topologies and social structures

Ways of working

Specialist skills

These things must work in harmony and continue to work together as the ecosystem scales and becomes more complex.

> **"It was clear the client teams were excited about what could be achieved. There was definitely a feeling of 'how can we get this across the organisation"**
>
> Gareth Evans, Chief Engineering Officer, HYPR

STAGE ONE – EXPERIMENTS

Over three months, we conducted a number of experiments to answer these questions:

- **How do you manage your cloud environments in a way that doesn't require a lot of people and manual steps?**
- **How can you stand up an environment at close to zero cost?**
- **How can you continuously deliver code and artefacts, such as API documentation, into a developer portal?**
- **How can you manage versioning of APIs in a way that allows for small changes and incremental improvements**
- **How can you radically improve quality and improve the ratio of developers to testers?**

We wanted to answer these things in a holistic way – by building a reference ecosystem that could serve as the blueprint for future delivery. The flow-optimised delivery ecosystem demonstrated how real issues could be solved with new approaches to comply with existing regulatory requirements and constraints.

The client gave us a high degree of autonomy and independence – the permission to put things together in a way which was unbounded by existing systems and constraints.

We worked with an agile mindset, delivering micro demos to gather constant feedback and reach a proof of what high maturity could look like.

Our work included establishing a pathway to production – how to take a unit of code into a progression of fully-automated cloud environments. We showed how to use infrastructure as code to stand up environments consistently and at low cost. We proved how to test, deploy and release without manual steps.

Learnings

When engineers from the client team saw the demos, they were surprised at how quickly these proofs could be achieved. They hadn't seen architecture, technical practices and process combined in that way before but recognised how well they worked together. They began to see how things are connected together in a flow-optimised ecosystem, not just as independently chosen elements. While there were some concerns about regulatory aspects, people could see there were different ways of achieving compliance that still allowed flow in the ecosystem.

STAGE TWO – DELIVERY

Having established a reference ecosystem, we then needed to integrate it within the organisation – beyond experiments – with relatively low-risk product delivery. The plan was to deliver:

- **Three APIs**
- **Five cloud-based environments**
- **A fully-automated pathway to production to deliver the APIs**

Our goal was to halve the time to market.

We formed a hybrid team for this stage, with deeply experienced HYPR engineers working alongside a small team of client engineers. Our aim with the Hybrid Team Model (see side panel) is to provide capability uplift through delivery, giving a great learning experience to get people super-engaged.

One specific area where we believed we could create a step-change in the client team was with containerised development. It lets you experiment and learn in a safe way before even getting into your first cloud environment.

Prior to this, the team hadn't been able to install and run containers on their laptops. So we gave them different options of how to do that in the modern world and a choice was made to set up AWS workspaces.

We scripted that and then tested it with one team member who was delighted at being able to play and learn without breaking things and getting incredibly fast feedback. Then we set this up for the wider team.

Learnings

We delivered the APIs, cloud environments and pathways to production and improved Flow Time from an average of 50 days to 25 days – proof that we had halved the time to market

We also proved that technology was no longer the major constraint. The next set of constraints that existed were around governance and policies, things like change acceptance boards, collaboration patterns with centralised teams and testing process that could further benefit from modernisation. Being able to understand these constraints meant we were in a position to suggest changes in Stage Three.

Working as a Hybrid Team

Our Hybrid Team Model puts practitioners alongside client team members. We encouraged the client to choose people who love learning and experimenting with new technology, people with open minds and who would be comfortable working with others they don't know.

Providing a good experience creates excitement and means it's easier to bring others along to scale the ecosystem. The Model creates some incredible benefits and leaves a long-lasting uplift in teams that allow them to sustain a world-class engineering practice long after we've gone. Read more about 'The Magic of Hybrid Teams'.

STAGE THREE – SCALING THE ECOSYSTEM

Strategic delivery of a new product

Stage Two focused on delivering some lower risk elements of a new product. This proved that the reference ecosystem worked for delivery and that it could be scaled across other domains and value streams on strategic work.

- **Stage Three involved three teams totalling over 60 people – split across two domains and a cloud team. We went deeper into a core value stream and wider to encompass other value streams**

Our team increased to six people, working together with the client teams to ensure that each pulled in the new proven delivery practices.

The work focused on standardising cloud infrastructure templates and the approach used to build 'paved roads' – to allow other areas of the organisation to improve pathways to production.

At the same time, we continuously worked to improve policies that were constraining flow.

We watched how developers were able to consume reusable artefacts to improve productivity and provided architectural guidance and technical patterns specific to the problems they were trying to solve. We ensured that good coding practices and layered test automation were built in to achieve high-quality standards.

FINAL OUTCOMES

Flow Metrics

We achieved substantial improvements in three key Flow Time, Flow Distribution and Flow Efficiency:

Flow Time – Reducing time to market

Flow Time is a 'money metric' that shows 'time to value' – the time it takes for any type of work to enter the value stream and reach the customer. Our client is experiencing reductions of over 50% in Flow Time. The business and product owners better understand how long a request will take to complete and whether investments in delivery are working.

Flow Distribution – Achieving an appropriate balance of work

Flow Distribution measures effort across different types of work:

- **Features (relating to business value)**
- **Defects (representing quality)**
- **Risk (relating to security and compliance)**
- **Debt (representing obstacles to future delivery)**

Our client was spending 60% effort on quality issues. We have reduced this by 80% to less than 10%, significantly rebalancing the Flow Distribution to allocate much more work to delivering value and reducing risk.

Flow Efficiency – Ensuring upstream work isn't holding up delivery

Flow Efficiency identifies where waste and wait states are holding up value delivery. If work is stagnating, it can cause a domino effect downstream.

The client's new delivery ecosystem has far fewer bottlenecks leading to a 30% improvement in Flow Efficiency.

People

We have observed a clear change in team engagement. There has been a notable excitement of teams working within the ecosystem. Typical, everyday frustrations of the past which led to a poor developer and tech experience have reduced significantly.

Teams are able to experiment, play and learn quickly without breaking things. This, along with fast feedback loops, is hugely empowering and will, we believe, fire up self-motivated continuous improvement.

Some people had never seen some of the things we were doing nor the direction we were taking. If they had, they never had the confidence to try or attempts had been made in isolation which had not persisted. By working as a Hybrid Team, we've provided the support, uplift and confidence that has transformed their views and interest. These team members have become advocates for the new ecosystem and the practices it demands.

Conclusion

The business is on its journey to building a world-class product engineering practice. The delivery ecosystem has transformed how people work, the quality they deliver and the speed at which value flows to the customer.

By connecting the ecosystem improvements to Flow Metrics, stakeholders in the wider business have the ability to see these improvements in real terms and real time. They can see what's working and the value delivered. And because the Flow Metrics are connected to the business OKRs, they can see how engineering helps deliver on – and drive – strategy. This shows why the engineering practice is the beating heart of the organisation.

WHY HYPR?

We'd love to help you on your journey to build a world-class product engineering practice. We're obsessed about delivering the outcomes you need and confident that we will deliver. Here are the things that make HYPR different...

Systems thinking – We take a systems-thinking approach to avoid local optimisations that contribute little to the whole. Implementation of a reference technology ecosystem requires this approach (and it's why Progressive Delivery alone won't be enough).

Transition not transformation – Your enterprise operates in a VUCA (Volatile, Uncertain, Complex, Ambiguous) world. It needs to keep flying while making changes. We know from experience that transition is the only way you can do both.

Focus on your people – Technology and people are one system and two sides of the same coin. We focus as much on the team topologies, social constructs and human networks as we do on the tech.

Focus on flow – Progressive enterprises focus on finding and removing delays from their system through the practice of Value Stream Management (VSM). It's the lens we use to look at your business.

Our people – We're a diverse team with shared purpose and values. We have extensive skills across our consulting lines, from the very best software engineers to strategic experts able to engage at board level. They have lived at the coalface of change.

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CONTACT US NOW – WE'RE READY TO HELP

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