



Operationalizing Services-as-Software™: From AI ambition to enterprise execution

Bringing the model to life through a pharma manufacturing use case

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Welcome & housekeeping

Thank you for joining us today!

Important notes:



All participants are automatically muted by the webinar administrator.



There will be a Q&A session following the presentation. Please feel free to send your question(s) at any time using the chat feature.



This webinar will be recorded and posted on the HFS webinars page. We'll also email you the recording once it's ready.

The next 60 minutes will cover...

Services-as-Software

01

Defining and level-setting

The benefits

02

The drivers to embrace
Services-as-Software

How to

03

Applying Services-as-Software
in Pharma

The financials

04

The business case to operationalize
Services-as-Software

What next

05

Key steps to make it real beyond
the webinar

HFS continues to drive original and practical thought leadership to showcase Services-as-Software's real-world potential



Featured research and articles

01

\$1.5 trillion Services-as-Software market takes off—three swimlanes emerge



02

How Services-as-Software gets rid of health plans CAPS



03

Services-as-Software and psychology biases break services pricing



04

Health plans must anchor value in health to survive and thrive in the BBB era



Everyone has AI

82%

of enterprises have an LLM in production



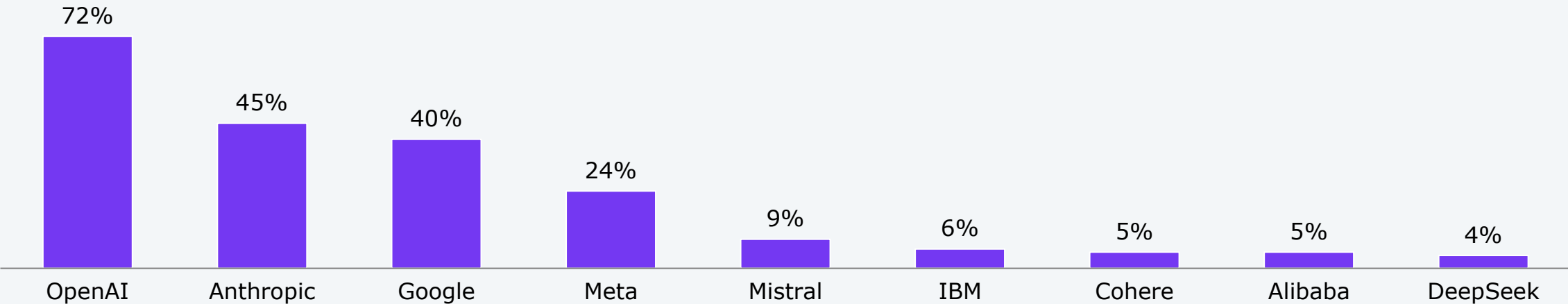
2.5

foundation models run in parallel, on average



Foundation model adoption in production

Which foundation model vendors are currently used in production at scale?



Sample size: 202 senior enterprise leaders from organisations with \$1B+ in annual revenue
Source: HFS Research Enterprise Pulse Study, 2026

Practically everyone is now deploying Agentic AI

What is your organization's current stage of Agentic AI adoption?



Sample size: 505 senior enterprise leaders from Global 2000 organizations
Source: HFS Research, 2026

AI investment is universal. Realized outcomes are not.

Average self-rated progress on AI ambitions

4.1

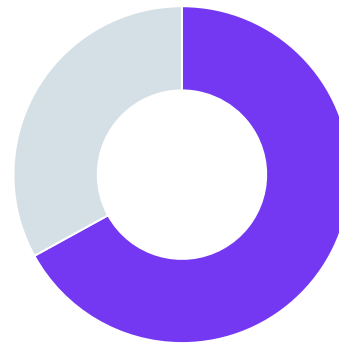
out of 10



Enterprise leaders are struggling to barely 'pass' on achieving their AI ambitions.

Across 14 responses to: "On a scale of 1–10, how close are you to achieving your AI ambitions?"

The #1 challenge in realizing AI ambitions



Two-thirds of enterprises blame their legacy operating model

The legacy operating model

Built in **2010** trying to capture **2026** AI-native value.

HFS coined Services-as-Software™ in 2024 to outline the fundamental shift required in our business model to capture the promise of AI

Dimension		Legacy services	Services-as-Software™
01	AI-first delivery 	Human-led delivery	AI-agent-led delivery
02	Proprietary IP 	Scale via headcount	Proprietary IP & codified expertise
03	Investment velocity 	Low, sporadic investment	High, continuous reinvestment
04	Outcome-aligned commercials 	Effort / input pricing	Outcome-based pricing
05	Production scalability 	Measured in people	Measured in in-production solutions

Every lever shifts from people and effort to AI, IP and outcomes — growth decoupled from headcount.

The Services-as-Software tech stack optimizes existing infrastructure while strategically injecting intelligence

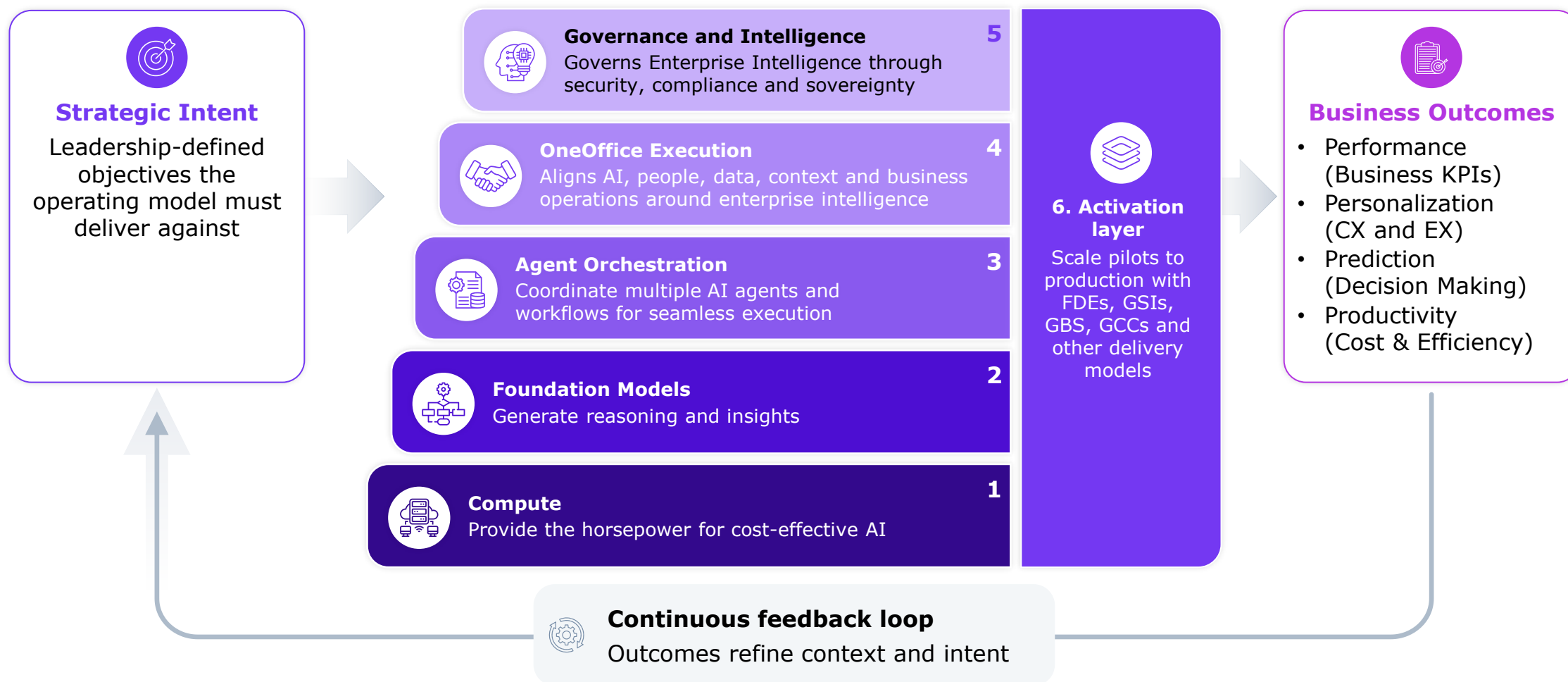
The cognitive work moved off the human line and **into the machine**, which an integration layer never did



A 21st century delivery paradigm to maximize the value of AI

Services-as-Software™ is the HFS operating framework that enables enterprises to build Sovereign Enterprise Intelligence by capturing and codifying human expertise, then continuously improving it through execution.

The Services-as-Software™ Enterprise Intelligence Model



Let's make Services-as-Software (SaS) real

Transforming pharma manufacturing using SaS

SaaS turns manual, expert-dependent knowledge work into agentic, outcome-driven services, unlocking speed, quality, capacity and revenue

Why now → Converging market forces and maturing AI make this the right time...across industries

Volume and complexity are rising
More products, more batches, more data. Manual models cannot keep up.


Revenue at risk
Delayed releases tie up working capital and defer revenue recognition.


Regulatory scrutiny is increasing
Expectations for data integrity, traceability and faster response keep rising.


Expertise is scarce and costly
Retirements, turnover and competition for QA and SME talent constrain capacity.


AI is enterprise-ready
Agentic AI, knowledge graphs and cloud platforms are mature, secure and validated.


Boards demand measurable value
Productivity is yesterdays gains. Speed to market and revenue impact matter most.


Measurable benefits: The 4Ps of services-as-software value

Productivity
Do more with less


- Deviation closure from 25 to 40 days down to under 10 days
- Up to 80% less batch record review time
- 200 to 400 QA hours freed each month

Prediction
Identify earlier, act faster


- Environmental and line anomalies detected in real time
- Repeat deviations fall as the knowledge graph learns
- Reactive firefighting gives way to proactive intervention

Personalization
Tailor every decision


- Agent's reason over your own SOPs, batch records, and CAPA history
- Recommendations reflect your site and its best CAPAs
- Adapts to new cases without being re-coded

Performance
Outcomes that matter


- Higher right-first-time and stronger compliance
- Batches and revenue released sooner
- Priced on outcomes, not headcount

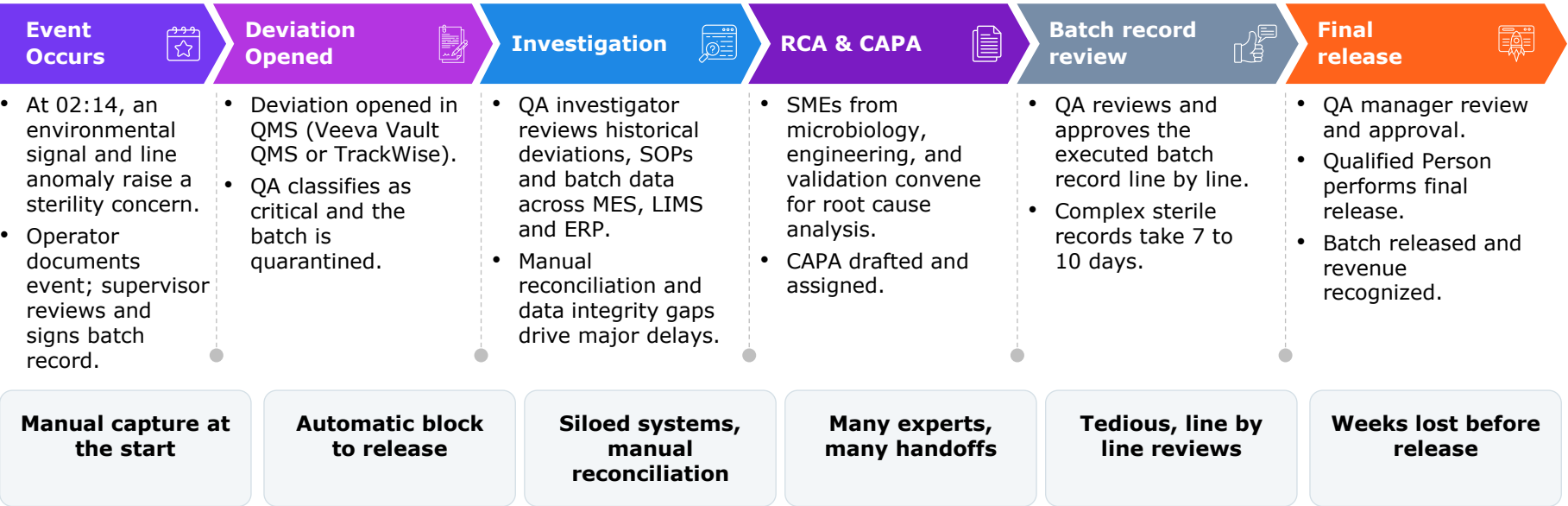
It's not the tech, but what you do with it, Services-as-Software guides the possibilities

In sterile manufacturing, knowledge work is the bottleneck

When something goes wrong, the investigation, review and release process takes weeks, blocking product, tying up experts and delaying revenue.

The situation today in Pharma manufacturing

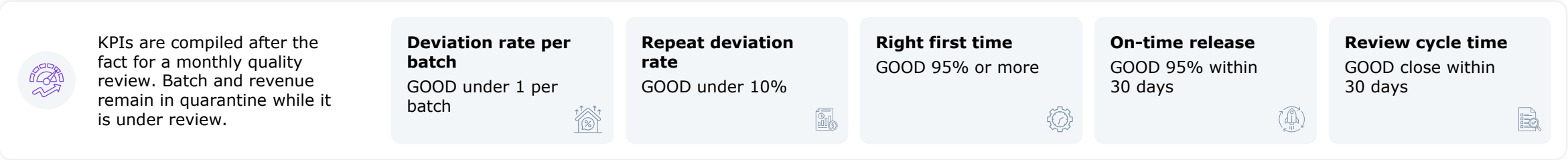
How it works today: Effort-based, manual, expert-dependent



Quantifying the impact

- 25-40 days**
End-to-end release vs 15-20-day target
- 12+ people, 5+functions**
Touch a single batch from deviation to release
- ~\$14K**
Per failure investigation, senior resources, and millions in lost revenue
- ~30% of site headcount**
Consumed by quality activities

Lagging Measurements | Reactive Insights | Revenue At Risk

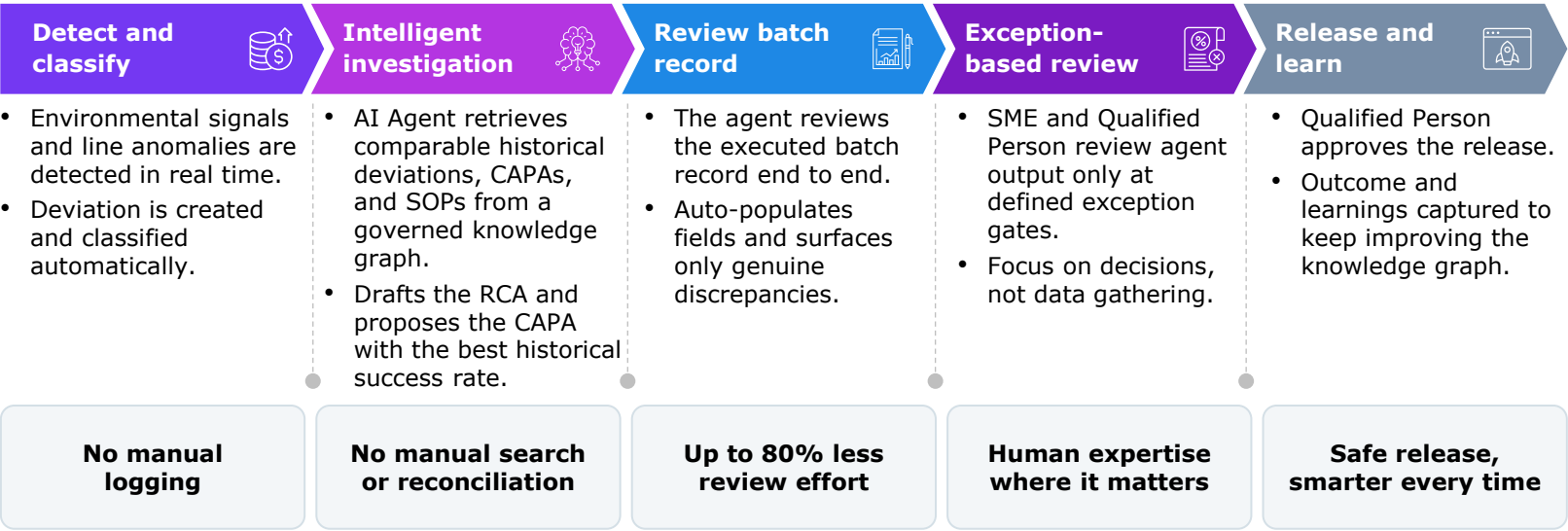


The Bottleneck is the manual, expert-dependent knowledge work around it

SaS will leverage AI to carry product faster to market

How it will work: Software-driven, expert-governed

The possibility of SaS in Pharma manufacturing



Quantifying the impact

- Deviation closure**
30+ days to under 10 days
- Batch record review time**
Up to 80% reduction
- QA capacity unlocked**
200 to 400 hours per month
- Sterile batch release**
25 days to 36 hours
- Revenue impact**
Quarantined batches and revenue freed sooner

The Foundation: Validated Data Substrate with Agentic Layer

Unified, validated data substrate

GAMP 5 and 21 CFR Part 11



Agentic layer



Commercial model driving outcomes over headcount

From (today)

- ✗ Pay for FTEs
- ✗ QA scales linearly
- ✗ Manual processes
- ✗ Lagging KPIs
- ✗ You carry the risk

To (with SaS)

- ✓ Pay for outcomes
- ✓ Closed deviations
- ✓ Released batches
- ✓ Right first time
- ✓ We own the outcome

 **The Tailwind** is the enterprise intelligence applied to where it can maximize value

A start-up investment in a single service line can return 10X in 3 years

\$1.8M



Start-up investment
range \$1.0M to \$3.3M

~3 months



Payback in the base case
range 2 to 28 months

\$18.5M



Net value over 3 years
about 10x the outlay

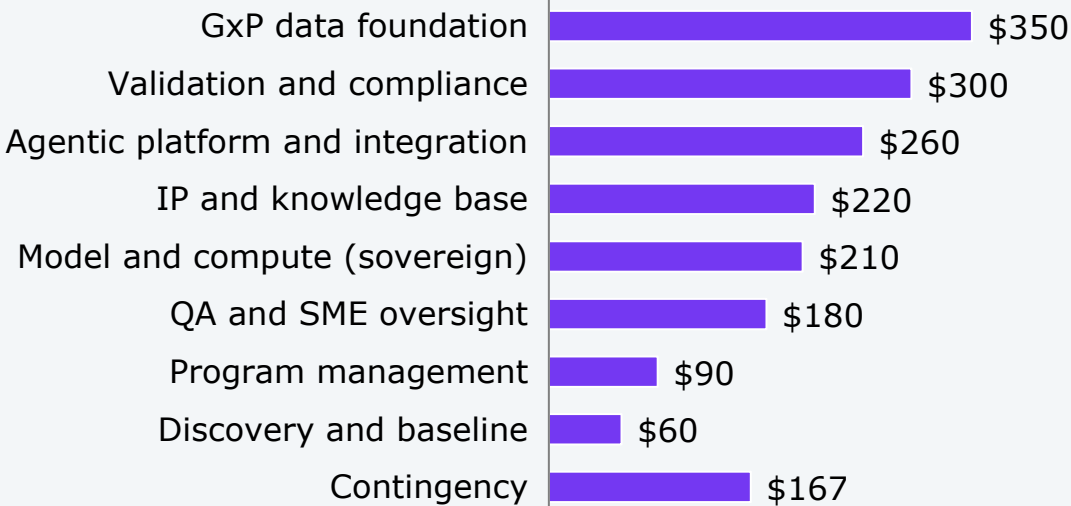
40% to 150%



Reduction in cost to resolve each deviation

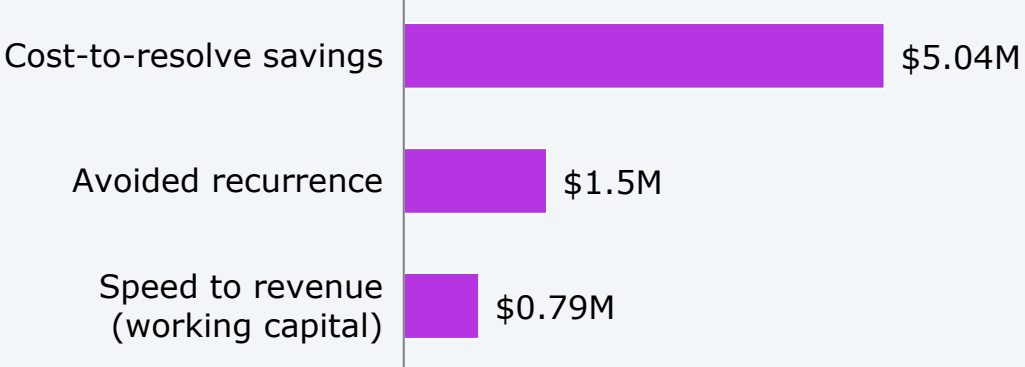
One time investment (base case)

\$1.8 million total



Returns every year (base case)

\$6.7M net/year*

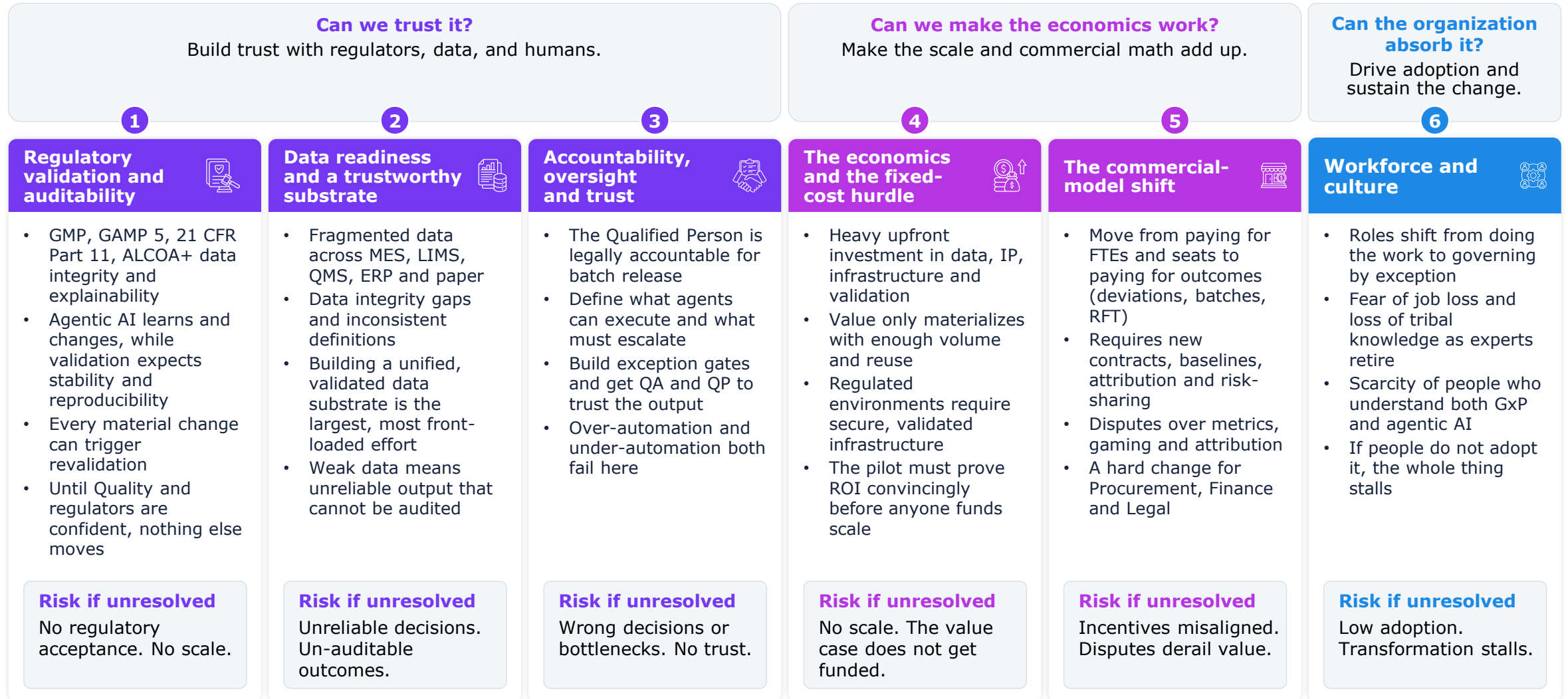


Payback in about three months from go-live

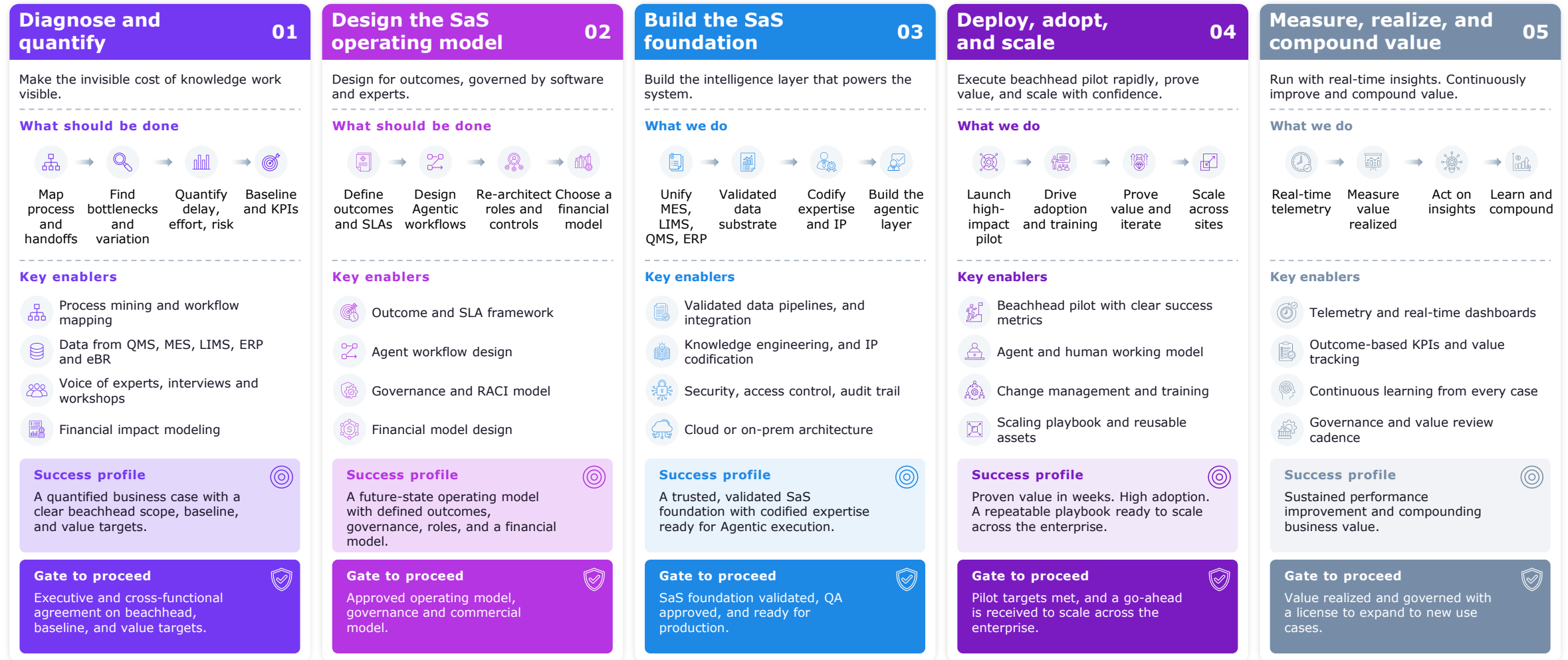
*Net returns include annual run costs of \$550K

Source: HFS Research, 2026

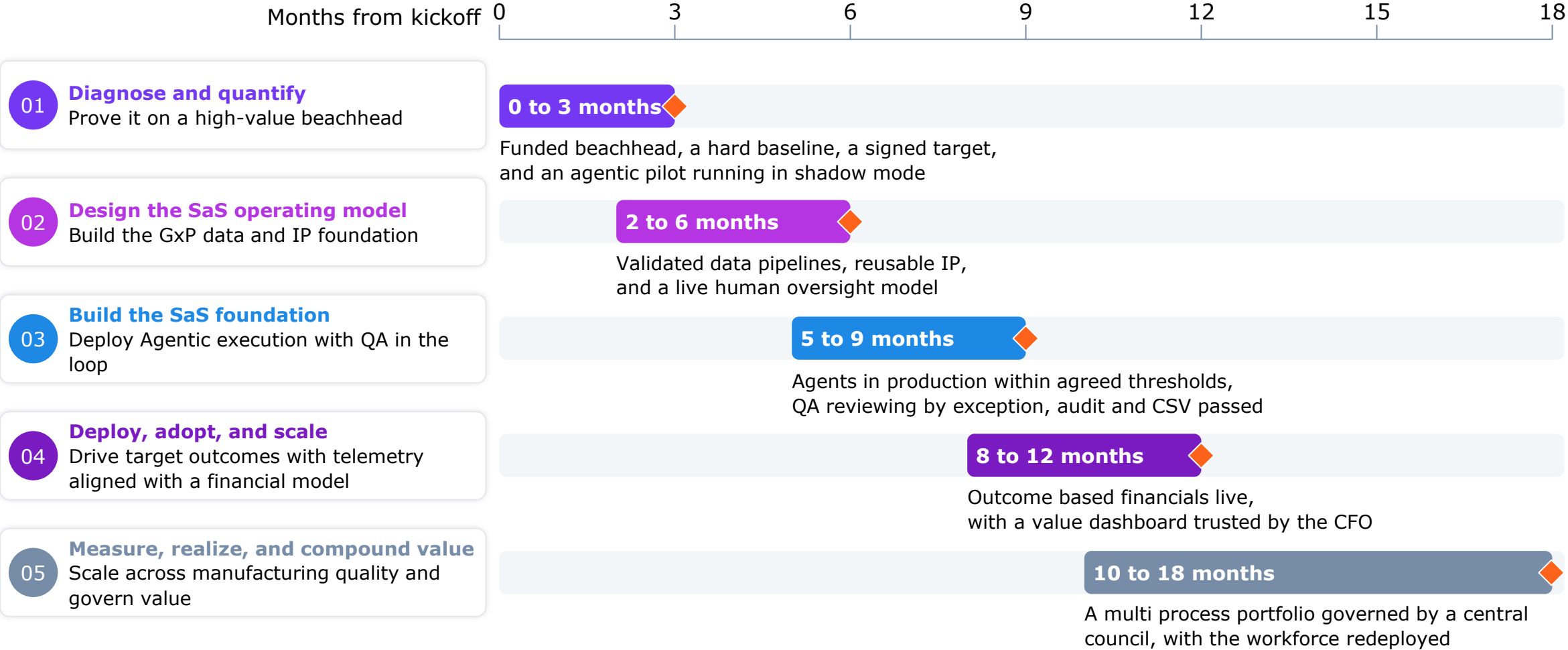
Yes, it is easier said than done...but the business case makes it worth the effort



5 steps to enable Services-as-Software while realizing benefits along the way



A finite timeline to execute, prove, and realize value



◆ Exit gate. Durations overlap by design and should be tuned to site readiness.

About HFS

- **INNOVATIVE**
- **INTREPID**
- **BOLD**

HFS Research is a leading global research and advisory firm helping Fortune 500 companies through IT and business transformation with bold insights and actionable strategies.

With an unmatched platform to reach, advise, and influence Global 2000 executives, we empower organizations to make decisive technology and service choices. Backed by fearless research and an impartial outside perspective, our insights give you the edge to stay ahead.



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