



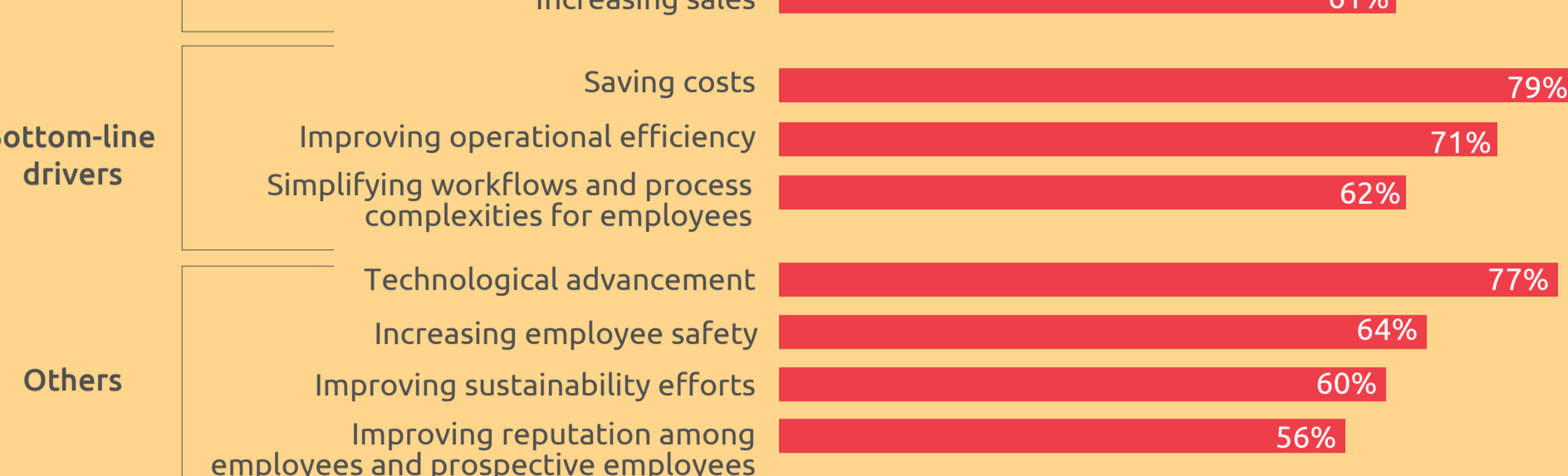
reflecting reality

DIGITAL TWINS: ADDING INTELLIGENCE TO THE REAL WORLD

01 Digital twins can drive high performance and sustainability

Digital twin investments are driven by top and bottom lines, as well as safety, sustainability, and brand reputation

Extent to which organizations agree that the below are the key drivers of their digital twin investments



Source: Capgemini Research Institute, Digital Twins survey, September–October 2021, N=1,000 organizations.

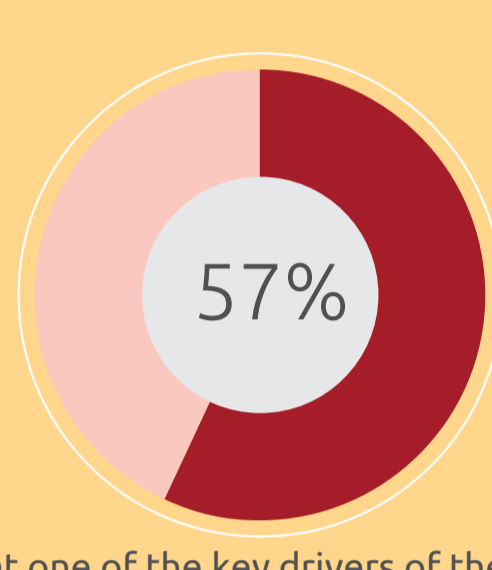
Organizations realize a multitude of benefits from their digital twin implementations

Average benefits realized from various digital twin implementations

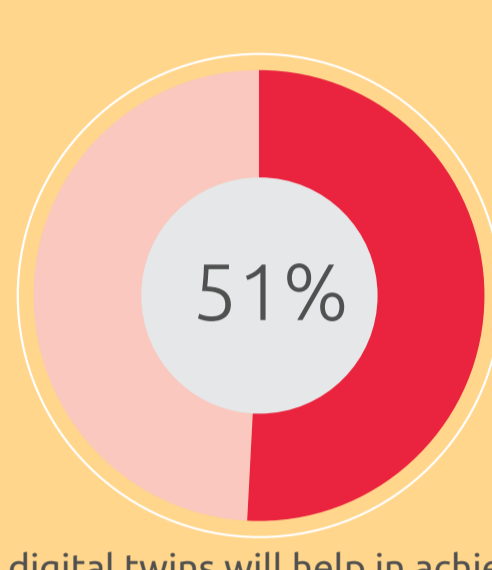


Source: Capgemini Research Institute, Digital Twins survey, September–October 2021, N=800 organizations with ongoing digital twin programs, benefits averaged across the various use cases.

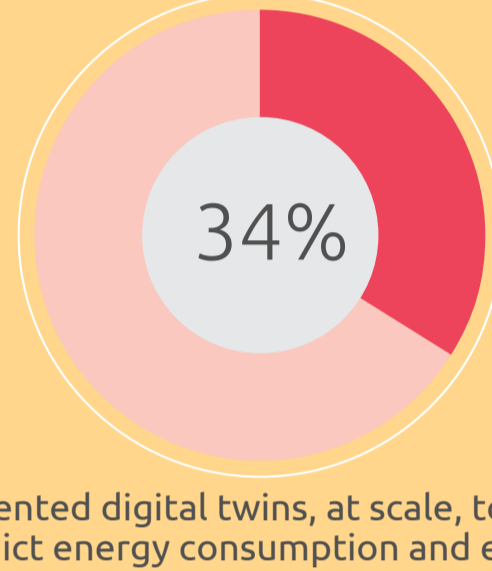
More than half of the surveyed organizations lean on digital twins to improve their sustainability, and a few are already reaping the benefits



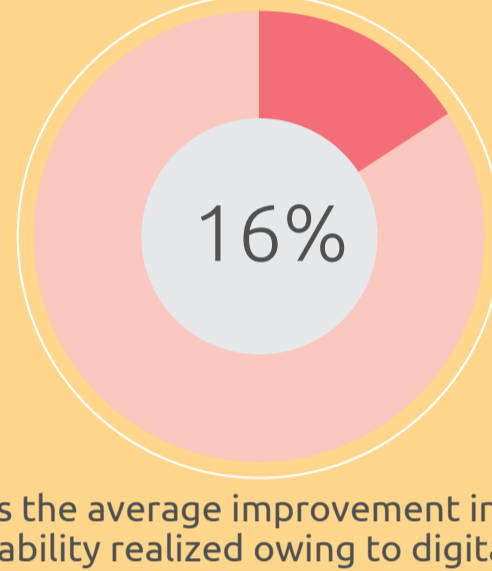
57% agree that one of the key drivers of their digital twin investments is improving sustainability efforts



51% agree that digital twins will help in achieving their organization's environmental sustainability goals



34% have implemented digital twins, at scale, to understand and predict energy consumption and emissions



16% is the average improvement in sustainability realized owing to digital twins

Source: Capgemini Research Institute, Digital Twins survey, September–October 2021, N=800 organizations with ongoing digital twin programs.

02 Digital twins add value throughout the value chain

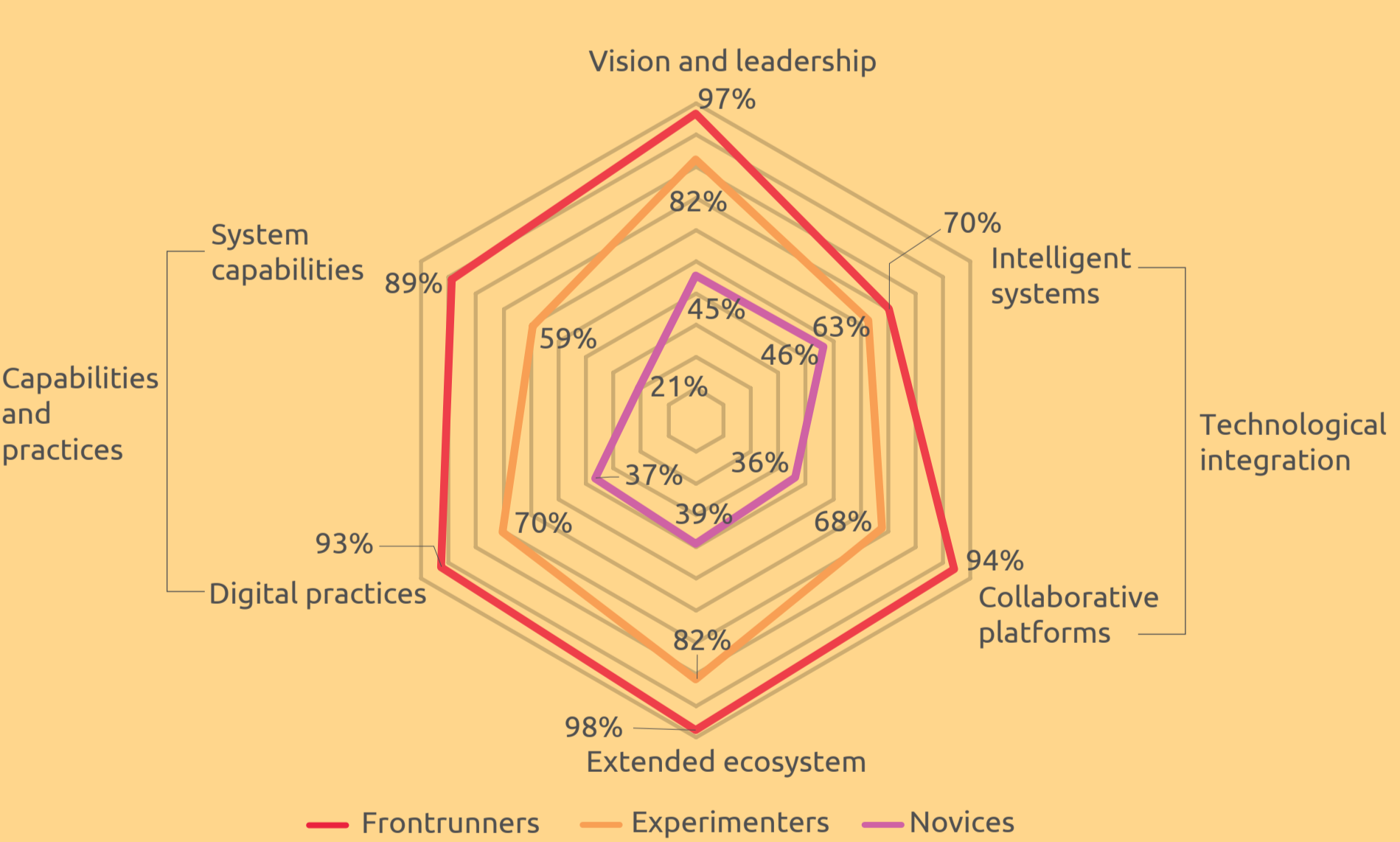
Product, logistics, and asset twins solve issues and provide added value

Product twin	Logistics twin	Asset twin
<p>New Products</p> <p>Issues</p> <ul style="list-style-type: none"> Faster portfolio rotation <p>Value added by digital twin</p> <ul style="list-style-type: none"> Feed in customer and in-service insights Allow platforms and re-use <p>Simulate → Monitor → Predict</p>	<p>Network</p> <p>Issues</p> <ul style="list-style-type: none"> Quality of customer service at acceptable cost Flexibility and resilience Sustainability <p>Value added by digital twin</p> <ul style="list-style-type: none"> Enable market- and demand-driven supply chain Allow dynamic network configuration <p>Simulate → Monitor → Predict</p>	<p>Existing assets/infrastructure</p> <p>Issues</p> <ul style="list-style-type: none"> Output optimization TCO optimization High availability/flexibility <p>Value added by digital twin</p> <ul style="list-style-type: none"> Act as an asset single source of truth Enable data-centric collaboration <p>Monitor → Predict → Simulate</p>
<p>Industrial system</p> <p>Issues</p> <ul style="list-style-type: none"> System output optimization Flexibility, scalability, and safety <p>Value added by digital twin</p> <ul style="list-style-type: none"> Enable product-process-resources integration (1) <p>Simulate → Monitor → Predict</p>	<p>Warehouse/Distribution center</p> <p>Issues</p> <ul style="list-style-type: none"> Shorten lead time Overall effectiveness <p>Value added by digital twin</p> <ul style="list-style-type: none"> Enable demand- and event-driven operations Enable process-resource integration <p>Monitor → Predict → Simulate</p>	<p>New asset generation</p> <p>Issues</p> <ul style="list-style-type: none"> Asset delivered with its digital twin Time to operate TCO optimization <p>Value added by digital twin</p> <ul style="list-style-type: none"> Enable digital collaboration and continuity all along the lifecycle <p>Simulate → Monitor → Predict</p>

(1) Manufacturing continuous processes will require dedicated design & simulation tools. Source: Capgemini analysis.

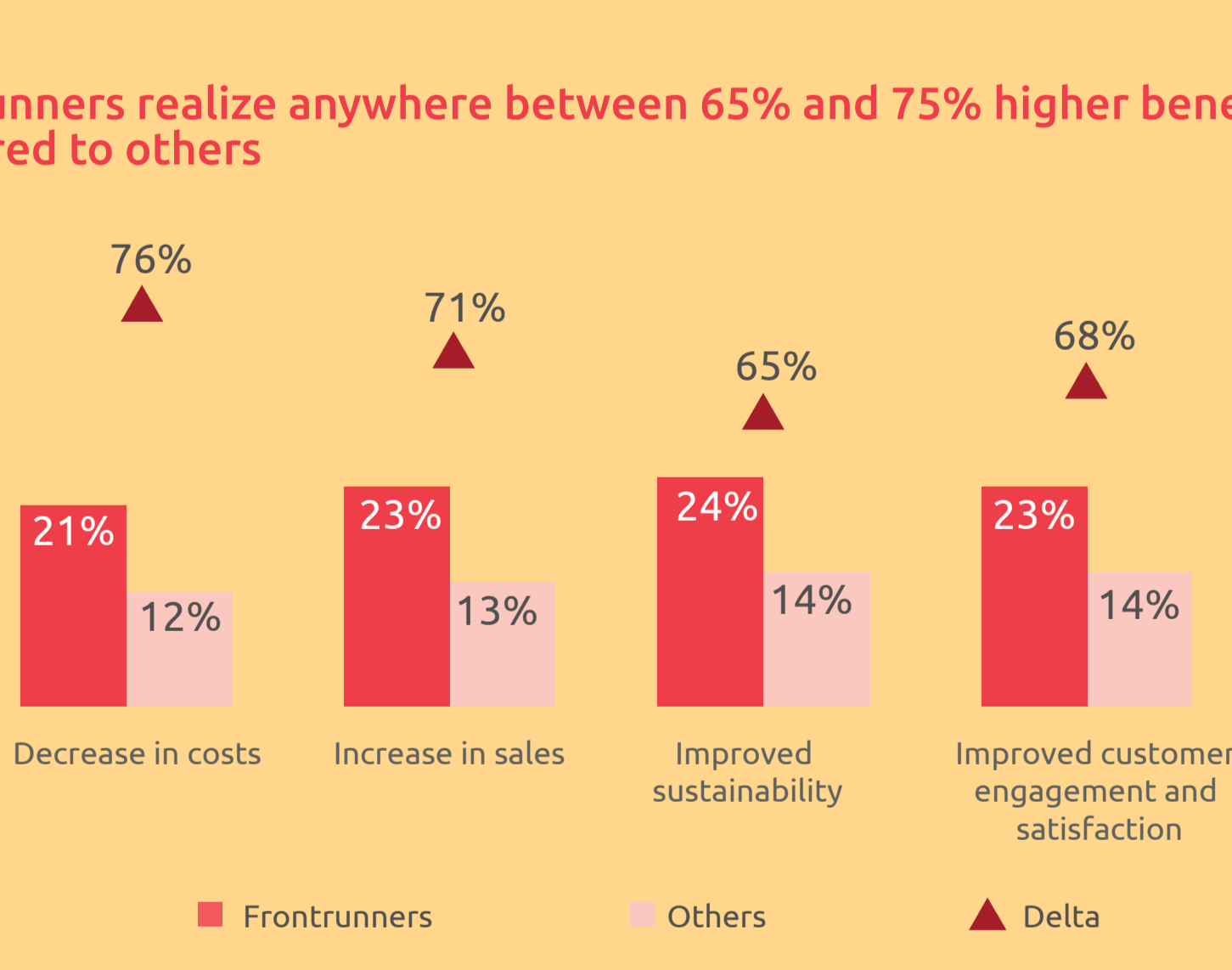
03 Frontrunners in the digital twin journey win the greatest benefits

Frontrunners (13% of organizations) outperform all others in the six areas of transformation



Note: Scores on each axis are rated from 0 to 100%, with 100% being a perfect score. Source: Capgemini Research Institute, Digital Twins survey, September–October, N=1,000 organizations.

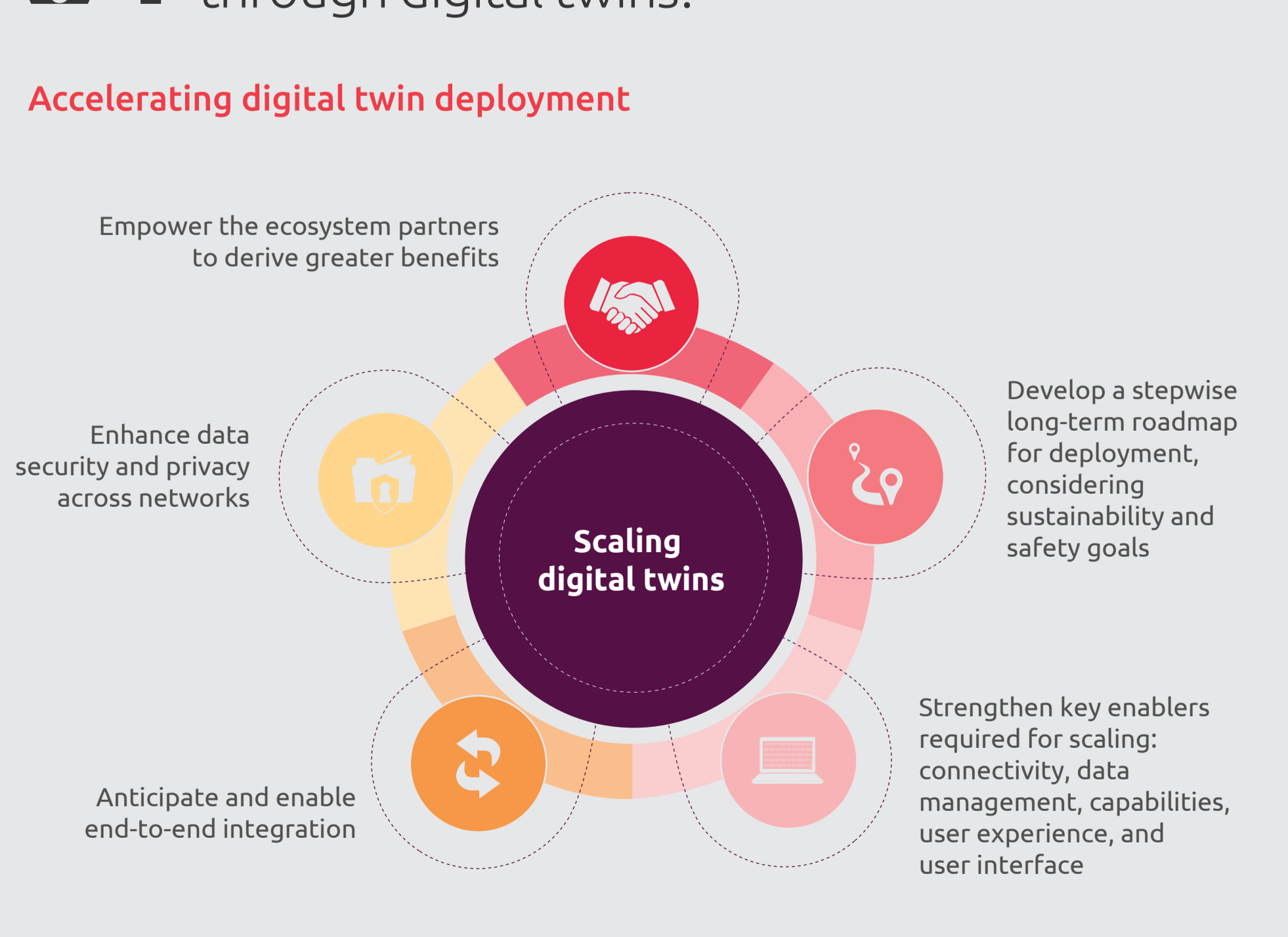
Frontrunners realize anywhere between 65% and 75% higher benefits compared to others



'Delta' represents the differential in benefits attained by the Frontrunners. Source: Capgemini Research Institute, Digital Twins survey, September–October, N=131 frontrunners, N=869 other organizations.

04 How to accelerate transformation through digital twins?

Accelerating digital twin deployment



Source: Capgemini Research Institute analysis.

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