Maritime Digitalisation Playbook

Annexes

| Supplements for Shipping Line, Ship Agency, Ship Management and Harbour Craft subsectors |

| Self Assessment Checklist |

| Digital Transformation Proposal Template (Guide) |

| Digital Transformation Proposal Template (Actual)|

A1a) Shipping Lines Supplement

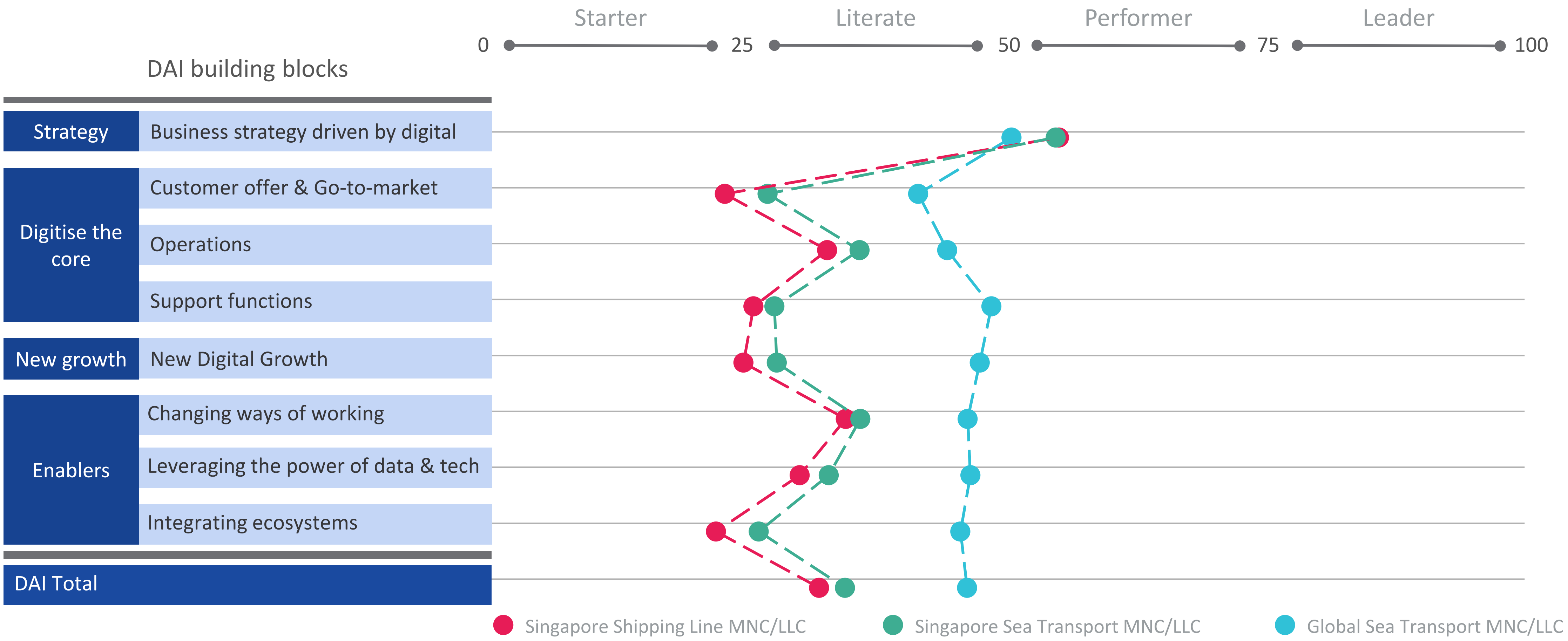
- Sub-sector DAI Scores
- Sub-sector Technology Use-Cases
- Case Study

Subsector DAI Scores

Results from the 2020 DAI Sectoral Studies

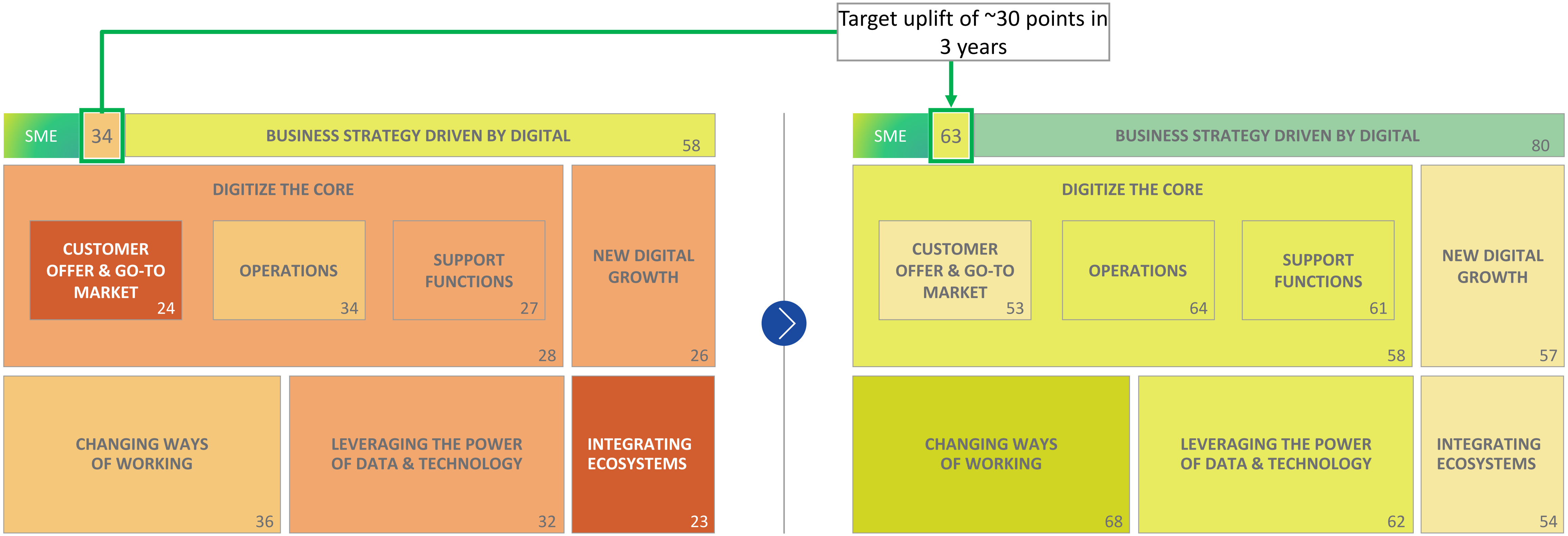
Shipping Line MNC/LLCs in Singapore are Digital Literates

Face largest gap with global peers in integration with ecosystems, new digital growth, digitise the core



1. All scores are based on self-reported survey answers, peers refer to organisations in the same sector
Source: IMDA DAI assessment

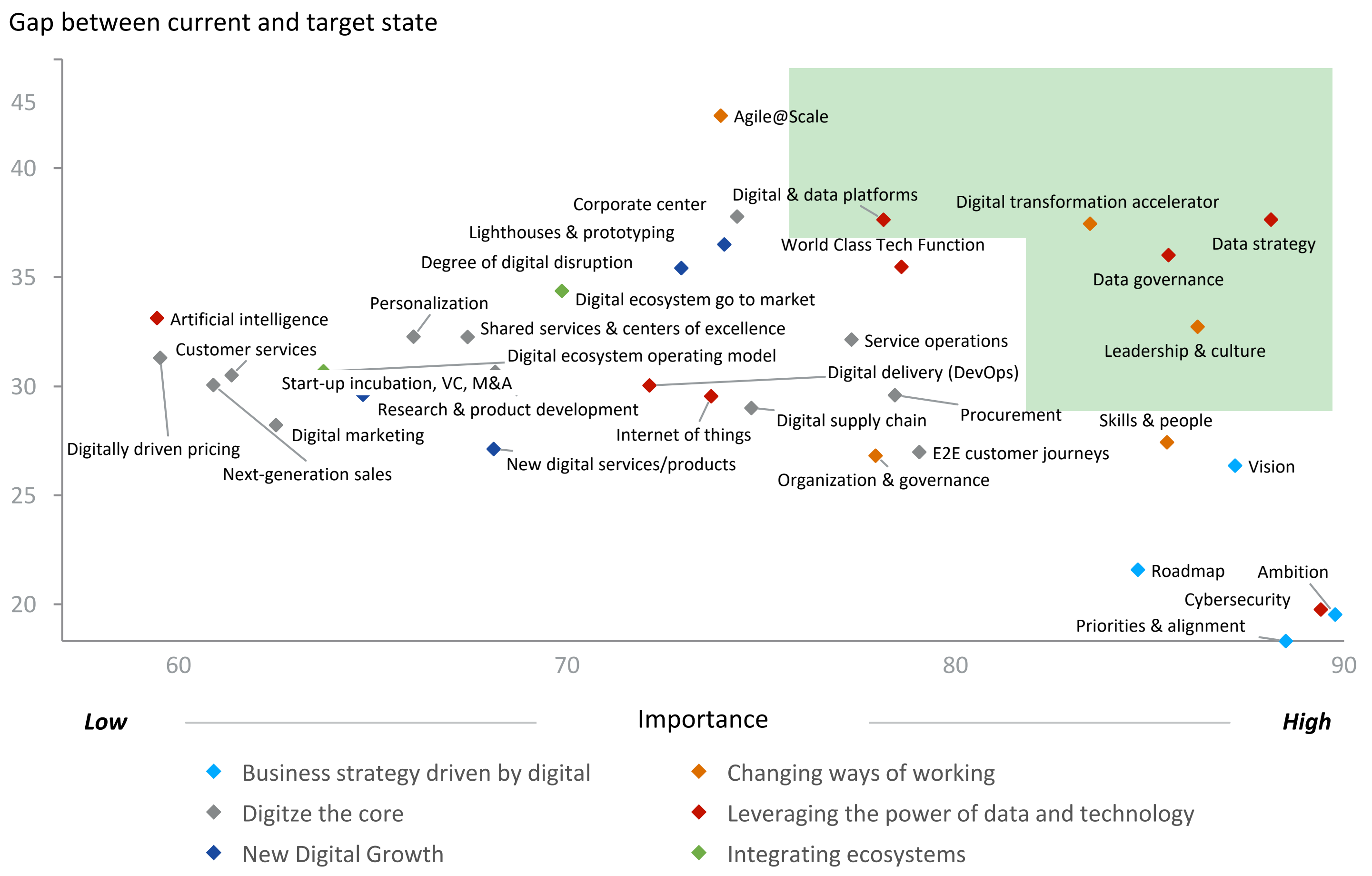
Shipping Line MNC/LLCs aspire to be Digital Performers in 3 years' time



	Digital starter			Digital literate			Digital performer			Digital leader			
DAI	0-8	9-17	18-24	25-33	34-41	42-49	50-57	58-65	66-74	75-82	83-91	92-100	N/A

Source: IMDA DAI assessment

Shipping Line MNC/LLCs: Need to focus on data, ways of working, platforms



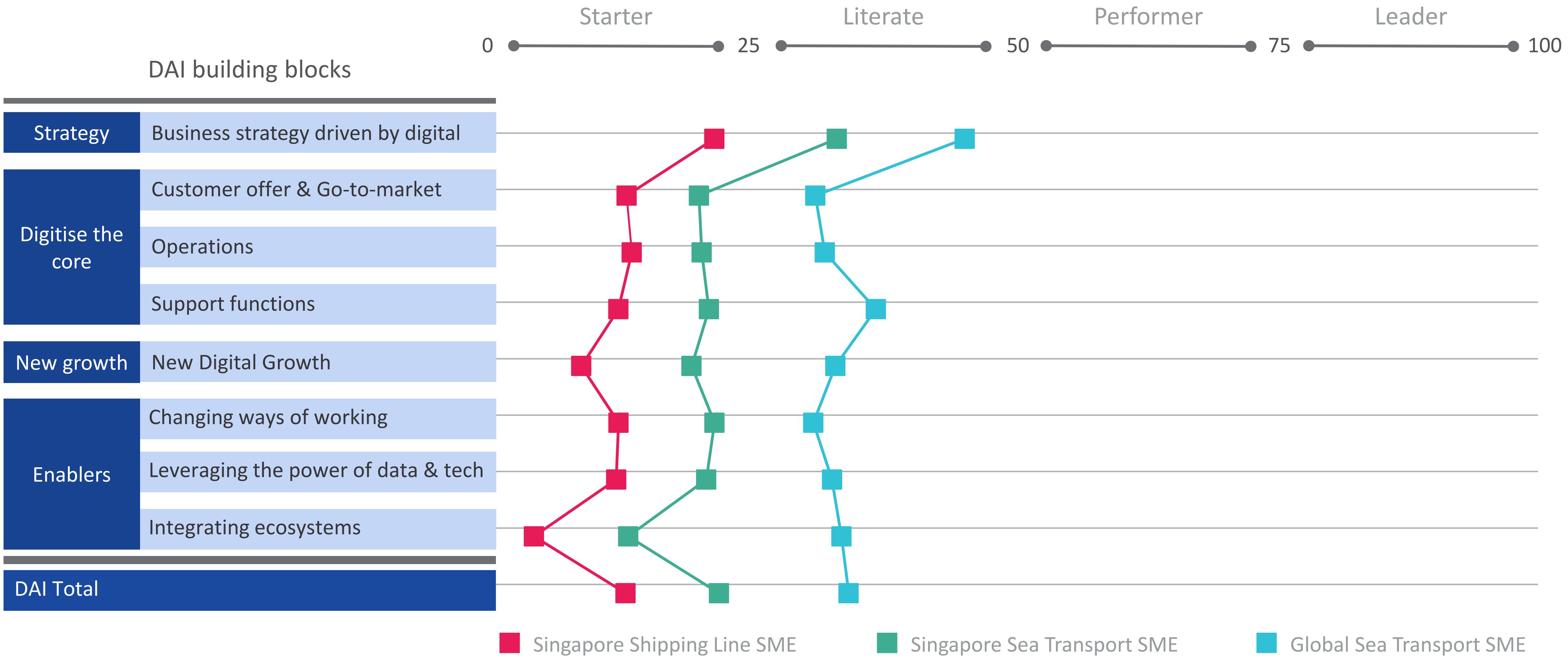
Top 5 Dimensions with largest gaps and highest importance

- Data strategy
- Data governance
- Digital transformation accelerator
- Leadership & culture
- Digital & data platforms

1. All scores are based on self-reported survey answers, peers refer to organisations in the same sector 2. Determined by gap between current digital maturity and target state of organisations in three years
Source: IMDA DAI assessment

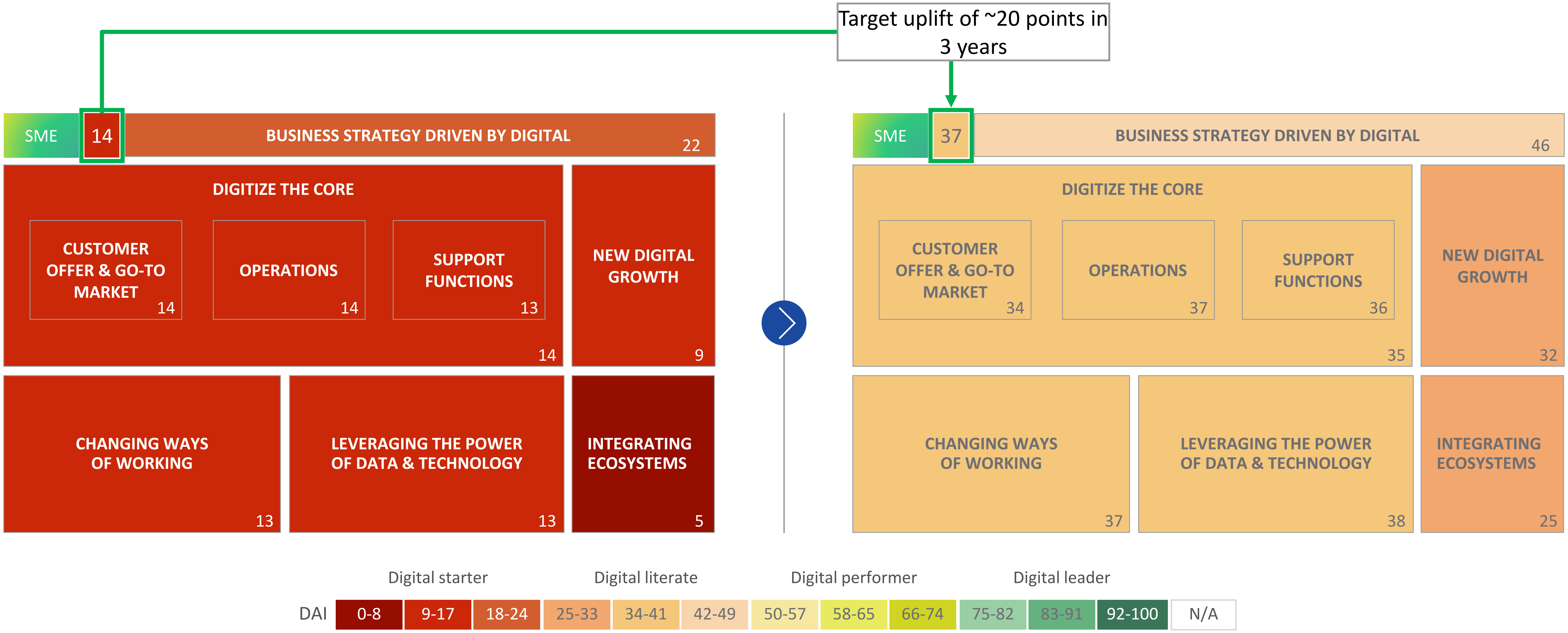
Shipping Line SMEs in Singapore are Digital Starters

Face largest gap with global peers in integration with ecosystems, strategy, digitise the core, new digital growth



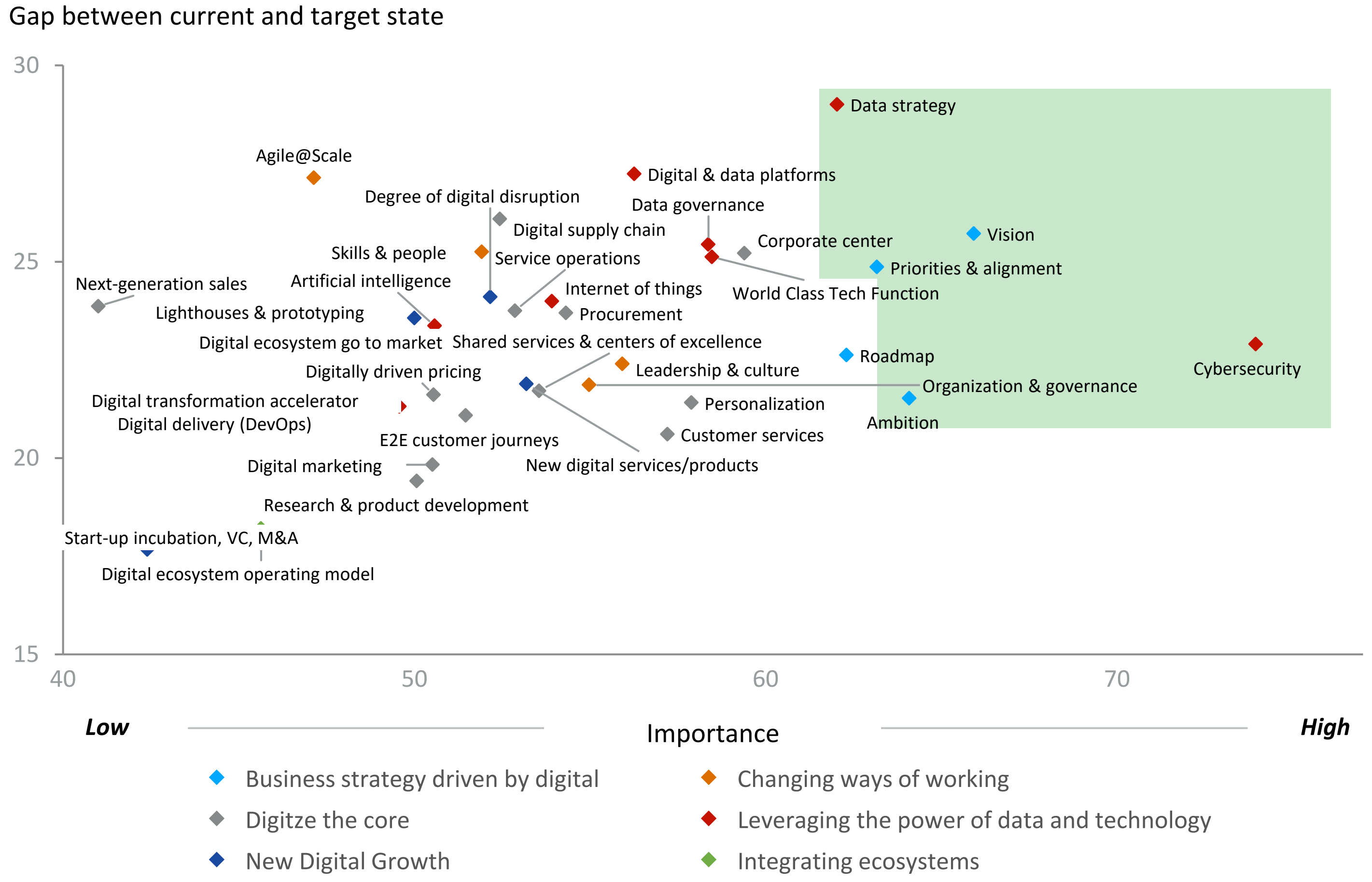
1. All scores are based on self-reported survey answers, peers refer to organisations in the same sector
Source: IMDA DAI assessment

Shipping Line SMEs aspire to be Digital Literates in 3 years' time



Source: IMDA DAI assessment

Shipping Line SMEs: Need to focus on strategy, cybersecurity and data



Top 5 Dimensions with largest gaps and highest importance

- Cybersecurity
- Vision
- Data strategy
- Priorities and alignment
- Ambition

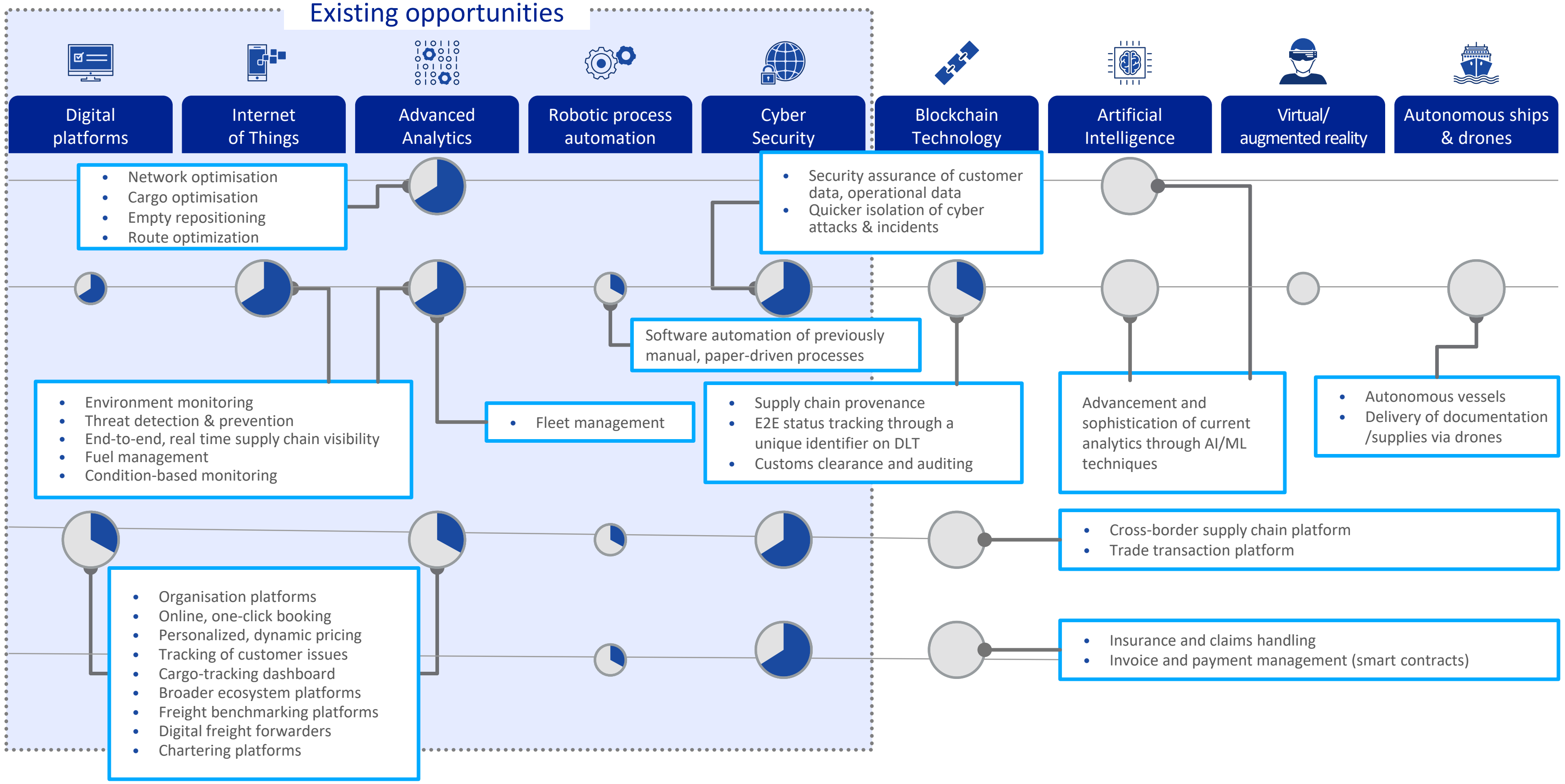
1. All scores are based on self-reported survey answers, peers refer to organisations in the same sector; 2. Determined by gap between current digital maturity and target state of organisations in three years
Source: IMDA DAI assessment

Technology Use Cases

How technologies are used by Shipping Lines across the value chain

Examples of digital opportunities within Shipping Lines

Category	Core processes
Planning	Voyage cost optimization Capacity management Route optimization
Operations	Vessel management Cargo flow activities[1] Other cargo operations[2] Logistics operations[3] Terminal management[4] Other port operations[5] Declarations[6]
Commercial	Freight Pricing Booking & Customer Support Business Development
Support	Shared services[7] Procurement Ancillary services[8]



Impact (needs-based): High, Med, Low

Adoption: No, Low, Med, High

Case study
(please see Slides 52 - 56)

1. Covers stowage, monitoring of cargo conditions and tasks related to loading/unloading of cargo across vessels/ports; 2. Covers cargo documentation, data transfer of cargo-level information, etc. 3. Warehousing, intermodal operations, etc. 4. Route management, embarking/disembarking of vessels, etc. 5. Chandlers, classifications agencies, bunkerers, etc. 6. Customs agencies, port authorities, etc. 7. HR, invoice/billing, general IT, etc. 8. Includes financing, insuring, legal work, etc.
Source: Expert interviews, BCG analysis

Case Study: A.P. Moller – Maersk

Highlighting best practices and key success factors

A.P. Moller – Maersk is one of the largest transport and logistics organisation in the world, with over 76,000 employees, a fleet size of over 1,000 vessels and offices in 130 countries

MAERSK

Amidst an atmosphere of overcapacity and margin pressures, increasing shippers' demands and rising emphasis on climate concerns, how is A.P. Moller – Maersk leveraging digitalisation to remain as a leader?

Maersk has embraced digitalisation and integrated it throughout its organisation and offerings …

Ensuring digitalisation is a core component of business strategy	**Clear commitment for the organisation to invest in digitalisation** … both in the short-term and for the long-run
Using digital platforms to provide best-in-class customer service	**www.maersk.com** Main platform incorporating booking, quotes, tracking, MyFinance etc. **Direct online booking** of containers with Alibaba **Maersk Spot** Platform that guarantees customers cargo space with fixed, transparent pricing **Customer360 dashboard** enabling quick identification and resolution of raised issues
Centering core operations around big data & analytics	**Digitalisation of operating backbone**, enabling use of supply chain information across core processes enabling … • Advanced voyage & cargo optimization • Predictive maintenance • Remote container management (e.g. reefers) • E2E cargo tracking • … and many more
Incubating & operationalizing new digital solutions alongside its core	**Maersk Trade Finance** – digital trade finance solution covering online KYC, credit evaluation, and disbursement **Twill - a virtual freight forwarder** developed by Maersk Damco, integrated with its infrastructure **Application Programming Interface (API),** enabling customers to receive SC information in standardized formats, further used for other applications
Instilling an organisational culture that is conducive for innovation to happen	Creation & assignment of **Chief Digital Officer** role **Separate digital organisation** of ~300 employees, **Hiring of non-traditional shipping talent** (e.g. experts I AI/ML, data science, etc.) **Adoption of Agile methodology** throughout projects
Making a longer-term bet through ecosystem-wide integration	Collaboration with IBM to build **TradeLens**, a **supply chain ecosystem** built on **block chain**

Source: BCG analysis, press releases, expert interviews

… bringing tangible benefits to its organisation & customers

- Using digital platforms to provide best-in-class customer service
- Centering core operations around big data & analytics
- Incubating & operationalizing new digital solutions alongside its core
- Instilling a organisational culture that is conducive for innovation to happen
- Making a longer-term bet through ecosystem-wide integration

Has brought benefits to …

Maersk as a organisation		Maersk's customers	
Improved **customer retention** rate	More **efficient planning of operations** (e.g. reduction of roll overs and overbookings)	**Reduction of manual, transactions**; now done seamlessly online	Higher **predictability and reliability** of cargo bookings
Increase in **cost efficiencies** (e.g., voyage optimization, cargo optimization and predictive maintenance)	**Reduction in vessel emissions** (e.g. through voyage optimization and reduced call time)	**Real-time visibility** an tracking of shipments	Improved **efficiencies of internal systems** through integration with Maersk's supply chain data
Future-proofing against the digitalisation tide by entrenching itself and increasing its importance to the overall ecosystem	**New revenue streams** (e.g., monetization of analytics and financial services—insurance and trade financing)	Access to **new services** (e.g., container analytics, trade financing, etc.)	(and in the near future) Potentially, a truly **end-to-end logistics journey** through a single platform

Source: BCG analysis, press releases, expert interviews

Maersk's digitalisation success is centered around five key success factors

Digital Vision

Maersk has a clearly defined digital ambition & plan

Customer Centricity

With Twill, Maersk started by looking at the pain points faced by its own customers

Data Foundation

Data is crucial and Maersk has gradually integrated data collection throughout its supply chain

Strong Partnerships

Maersk's partners plug skillset gaps within its organisation – e.g. IBM

New ways of working

In its digital arm, Maersk incorporates non-traditional shipping talent with new ways of working (e.g. Agile)

Source: BCG analysis and expert interviews

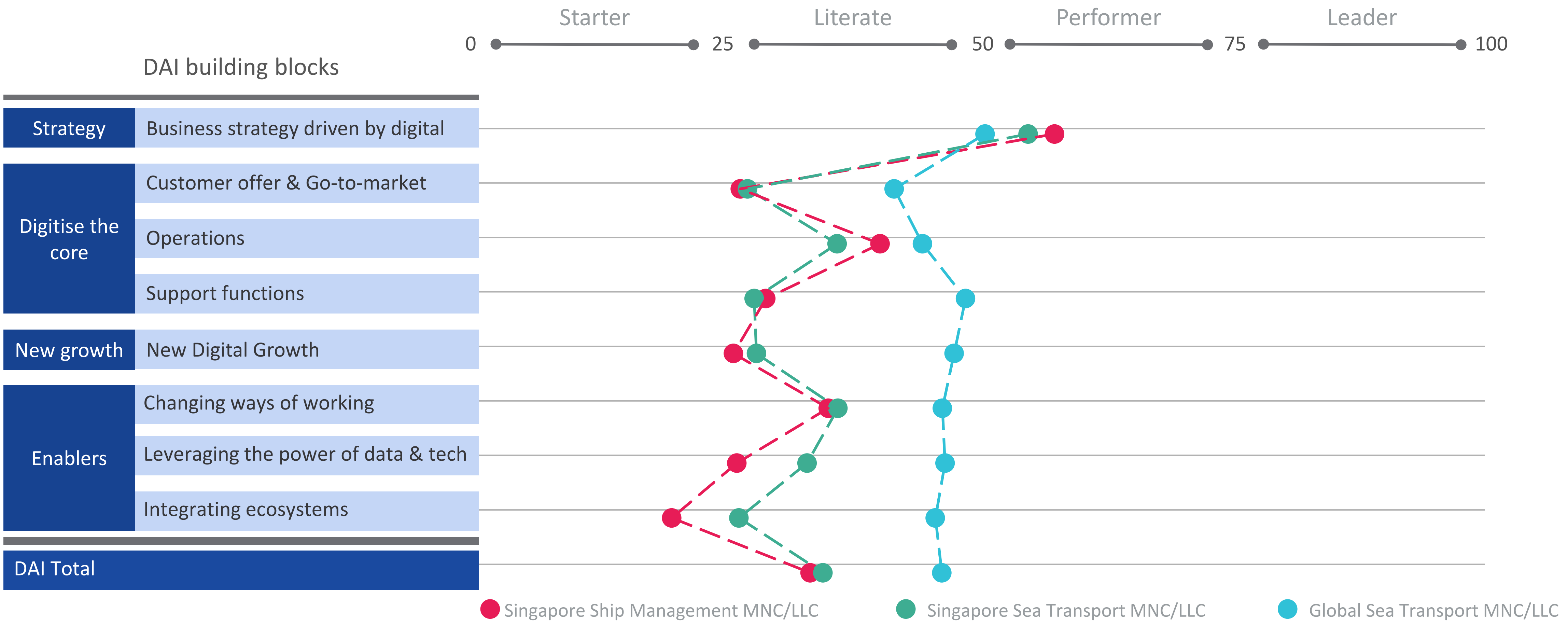
A1b) Ship Management Supplement

Subsector DAI Scores

Results from the 2020 DAI Sectoral Studies

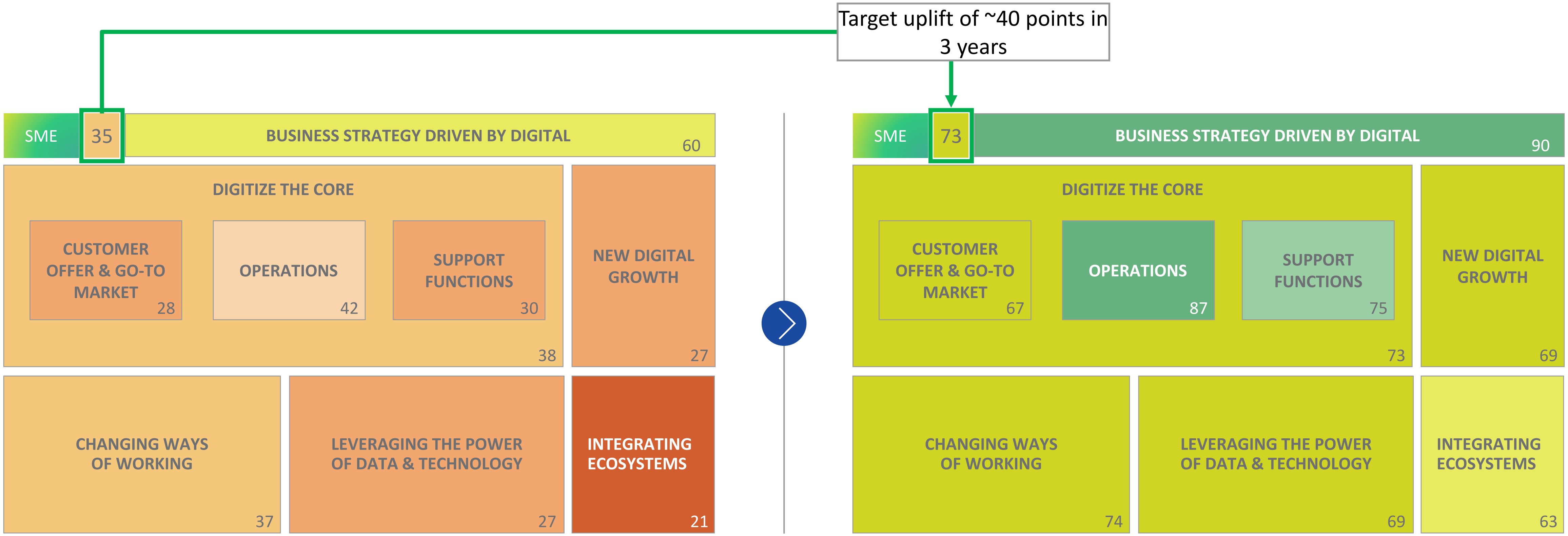
Ship Management MNC/LLCs in Singapore are Digital Literates

Face largest gap with global peers in integration with ecosystems, new digital growth, digitising the core



1. All scores are based on self-reported survey answers, peers refer to organisations in the same sector
Source: IMDA DAI assessment

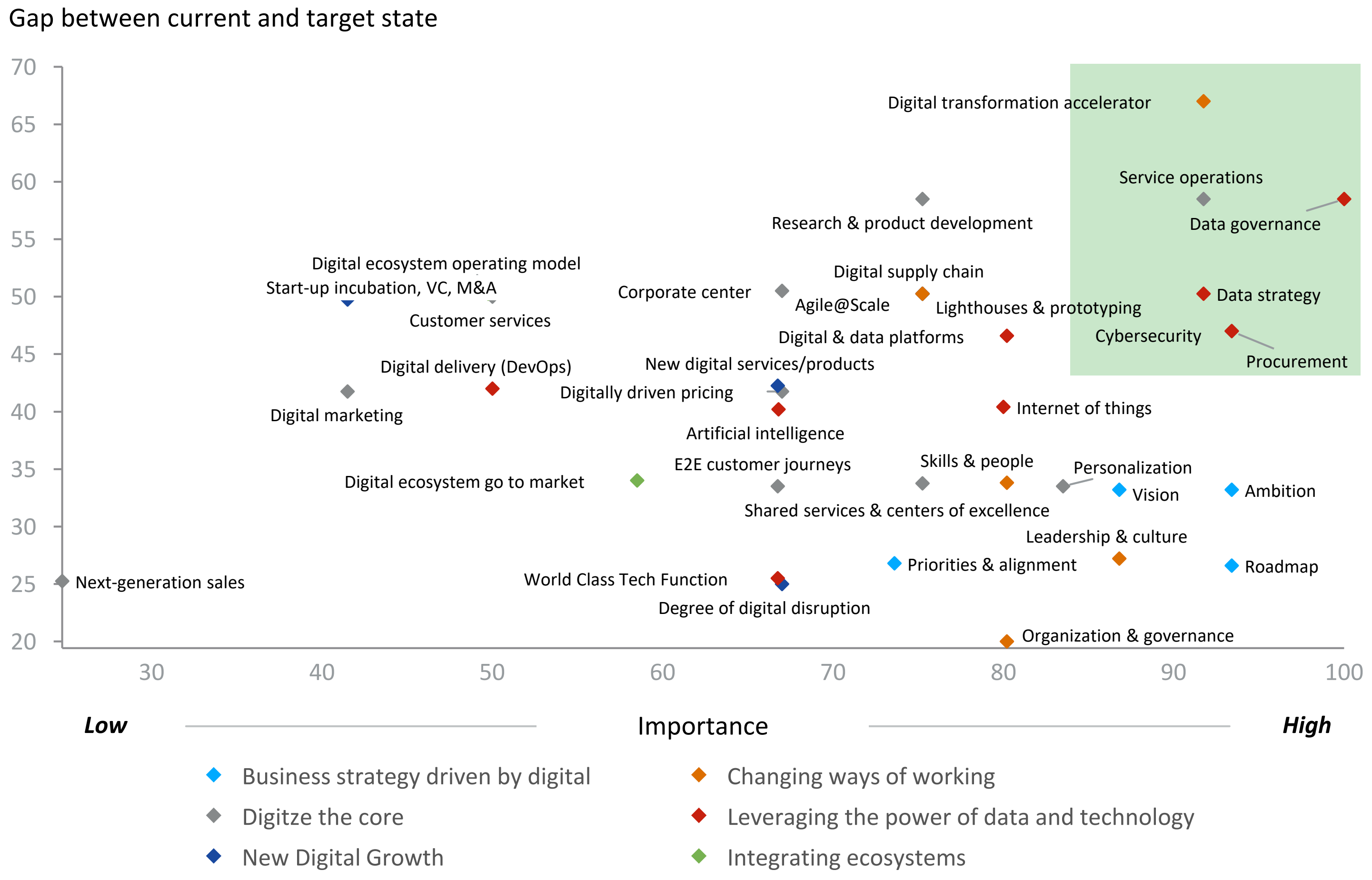
Ship Management MNC/LLCs aspire to be Digital Performers in 3 years' time



	Digital starter			Digital literate			Digital performer			Digital leader			
DAI	0-8	9-17	18-24	25-33	34-41	42-49	50-57	58-65	66-74	75-82	83-91	92-100	N/A

Source: IMDA DAI assessment

Ship Management MNC/LLCs: Need to focus on digital transformation accelerator, data, digitising the core



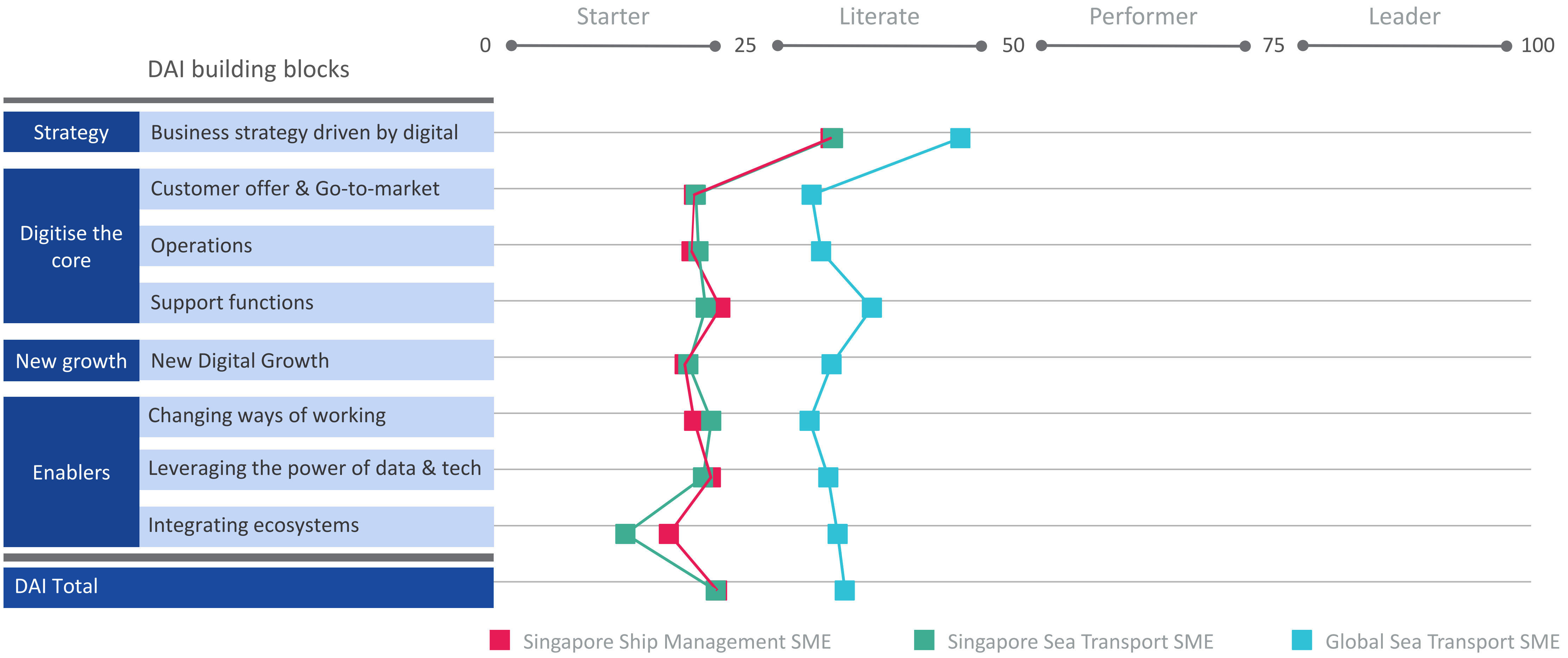
Top 6 Dimensions with largest gaps and highest importance

- Digital transformation accelerator
- Data governance
- Service operations
- Data strategy
- Cybersecurity
- Procurement

1. All scores are based on self-reported survey answers, peers refer to organisations in the same sector 2. Determined by gap between current digital maturity and target state of organisations in three years
Source: IMDA DAI assessment

Ship Management SMEs in Singapore are Digital Starters

Face largest gap with global peers in integration with ecosystems, new digital growth, digitising the core



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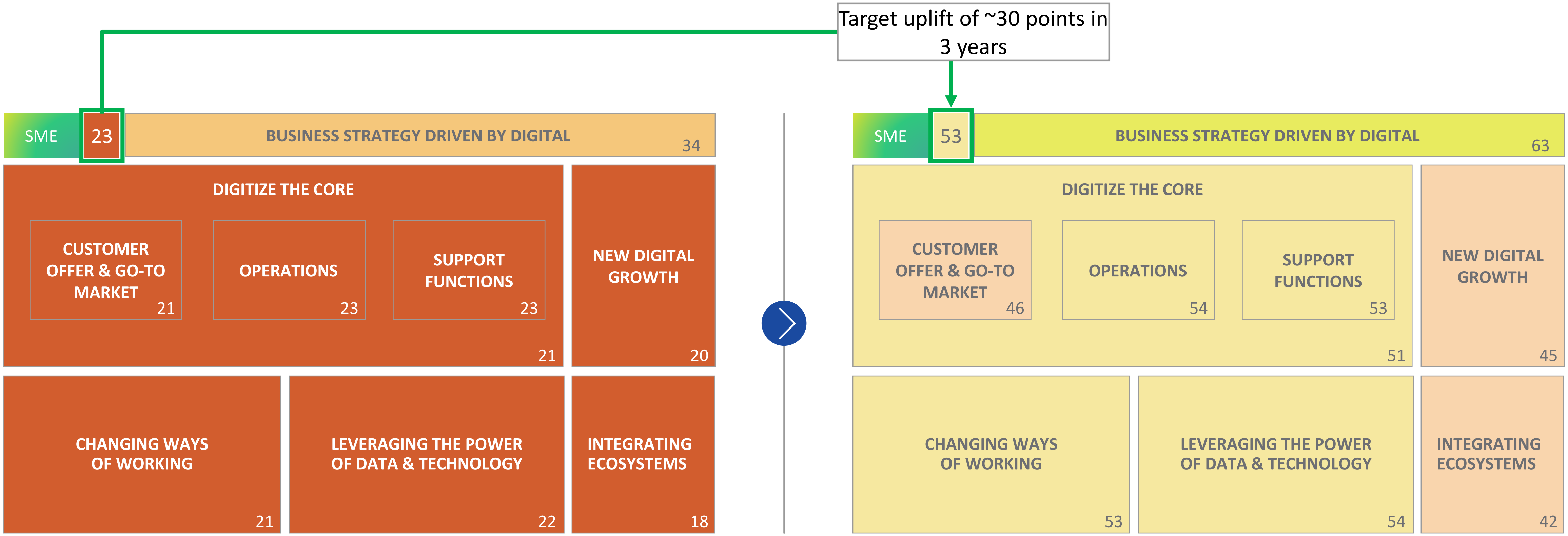
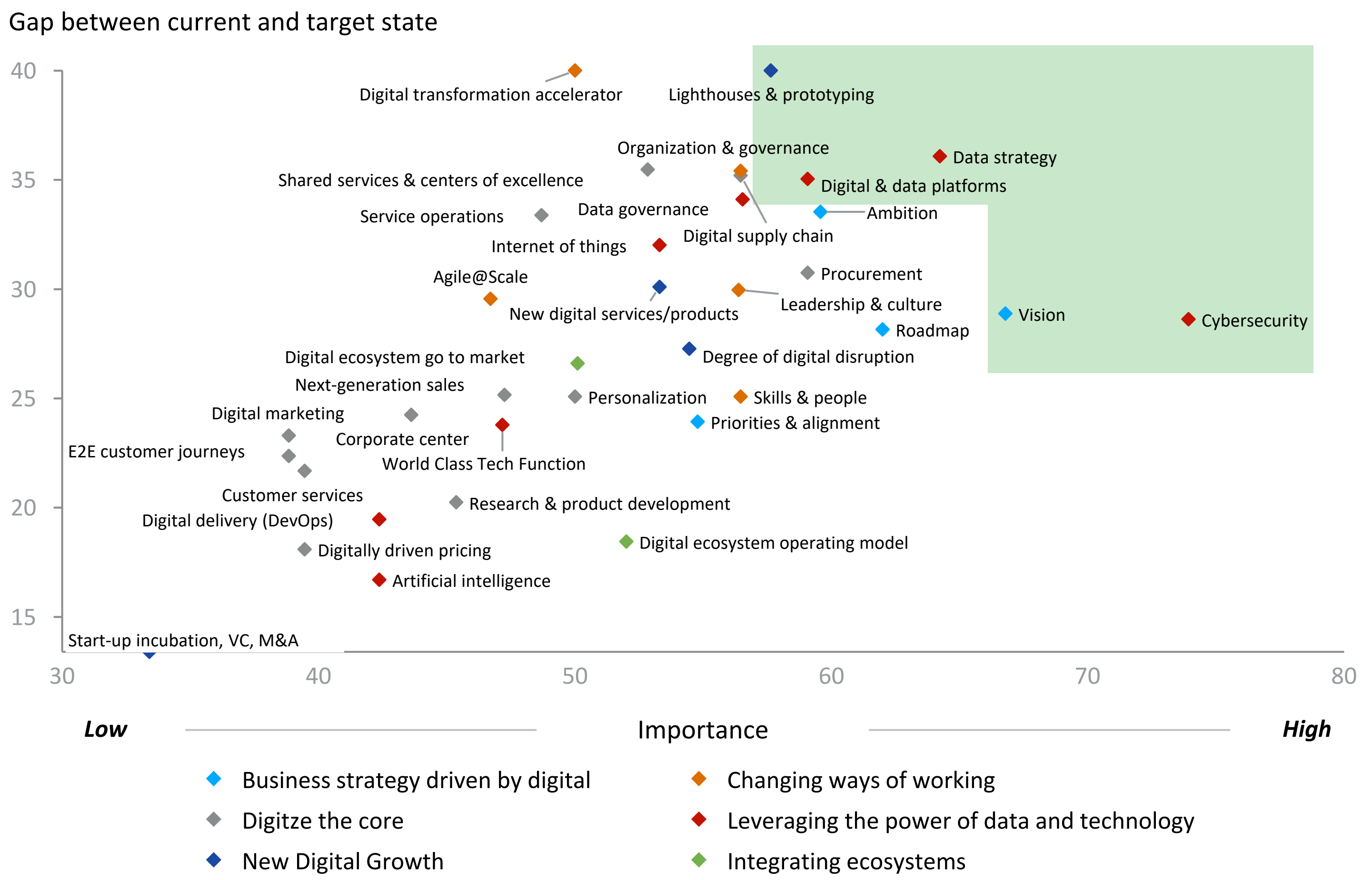
Ship Management SMEs aspire to be Digital Performers in 3 years' time



	Digital starter			Digital literate			Digital performer			Digital leader			
DAI	0-8	9-17	18-24	25-33	34-41	42-49	50-57	58-65	66-74	75-82	83-91	92-100	N/A

Source: IMDA DAI assessment

Ship Management SMEs: Need to focus on cybersecurity, data, lighthouses & prototyping, vision



Top 5 Dimensions with largest gaps and highest importance

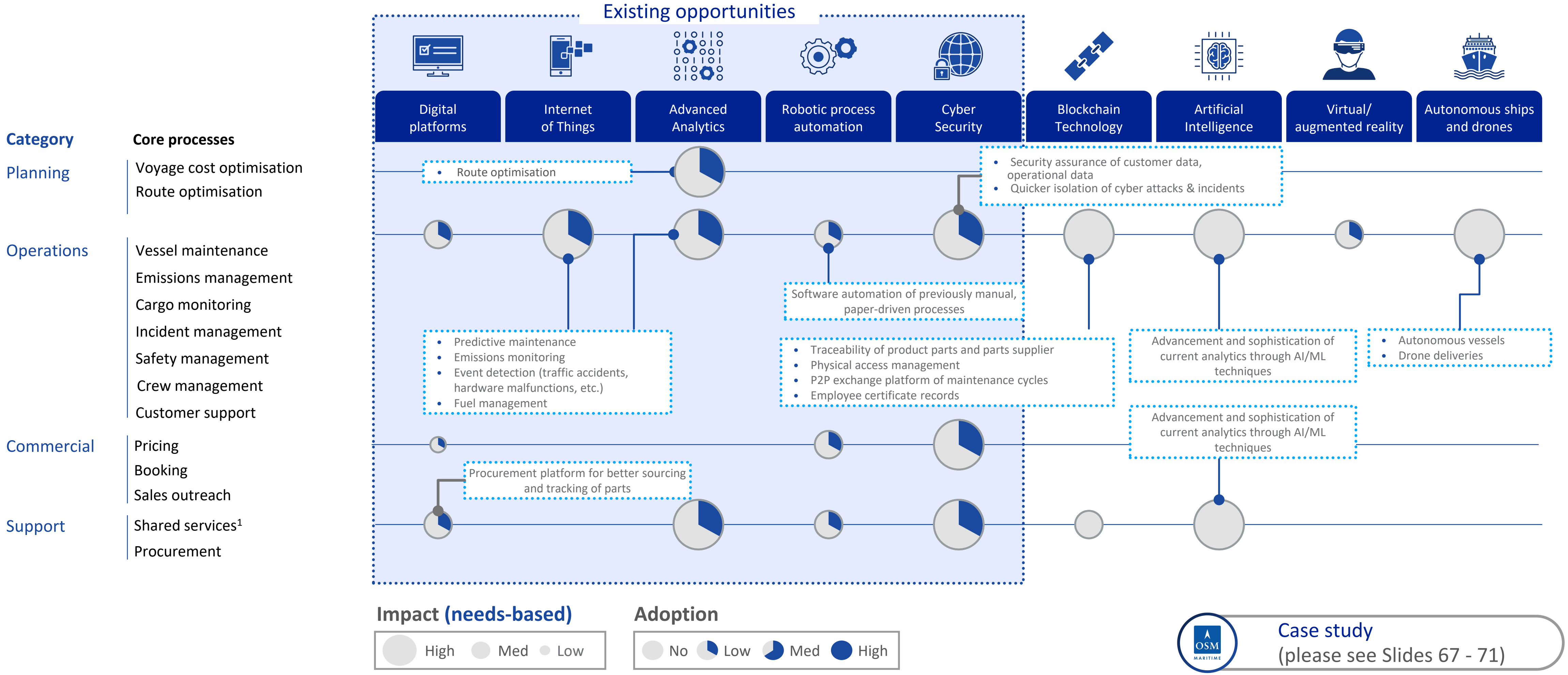
- Cybersecurity
- Data strategy
- Lighthouses & prototyping
- Vision
- Digital & data platforms

1. All scores are based on self-reported survey answers, peers refer to organisations in the same sector 2. Determined by gap between current digital maturity and target state of organisations in three years
Source: IMDA DAI assessment

Technology Use Cases

How technologies are used by Ship Management across the value chain

Examples of digital opportunities within Ship Management



1. Includes HR, invoice/payments, general IT, etc.
Source: Expert interviews, BCG analysis

Case Study: OSM Maritime

Highlighting best practices and key success factors

OSM Maritime is a ship management company with more than 12,000 employees, managing a fleet size of over 500 vessels from ~30 offices around the globe

OSM MARITIME

With a focus on providing the best customer service and capitalising on the rise of new skills and job profiles, how has OSM Maritime doubled down on its digitalisation efforts in the last few years?

OSM Maritime has embraced digitalisation and integrated it throughout its organization and offerings …

Using digital platforms to improve operations and customer service	**Analytics dashboard of on-ship operations,** showing leading and lagging indicators for operational risk, which can be used for predictive safety measures **Customer portal** continuously enhanced and integrated into customers' own systems for tracking of on-ship operations
Ensuring internal systems are scalable and standardised	**Reducing legacy systems and shifting remaining systems into cloud** to ensure easier, faster access **Global HR platforms for both seafarers and shore staff** largely integrated across all offices
Optimising the quality of data collected and analysed	**Optimising fragmented landscape of tools** Connecting various systems used by each shipowner to a common system, and ultimately aiming to transition to one system used by OSM, for operational efficiency
Streamlining the ways of working among staff	**Robotic Process Automation** to simplify highly repetitive processes e.g. payroll processing **Advocating use of people collaboration tools e.g. Microsoft Teams,** removing dependence on physical location
Tech-enabled learning to keep staff up-to-date on latest skills	**Use of VR to design virtual classrooms** for seafarer training **Platform for self-generated learning content,** paired with competency and methodology to enable fast rollout of new content in <7 days

Source: Expert interviews

… bringing tangible benefits to its organisation & customers

- Using digital platforms to improve operations and customer service
- Ensuring internal systems are scalable and standardised
- Optimising the quality of data collected and analysed
- Streamlining the ways of working among staff
- Tech-enabled learning to keep staff up-to-date on latest skills

Has brought benefits to …

OSM as a company

Improved **seafarer performance** through more transparent and data-driven decision making

Improved **customer retention, customer growth rate** through providing services over and above relatively commoditised field

Increase in **productivity by double-digit % growth** (less new staff recruited to handle higher volume of business)

Improved employee retention with more streamlined job scope

Increase in skillsets of staff to handle more value-added tasks rather than transactional processes

OSM's customers

Increased suite of products offered (e.g. medical, training aspects of crew management) based on their needs

Improved use of data as source of business insights due to better data collection and analysis by OSM

Improved quality of service enjoyed with better-trained seafarers and shore staff

Source: Expert interviews

OSM Maritime's digitalisation success is centered around six key success factors

Quality of staff

OSM employs and retains staff with right competence and attitude, embodied in their slogan: "It's all about people"

Customer engagement

OSM involves its customers in product development to ensure the end product is relevant to its customers

Data Foundation

OSM recognises quality data as a crucial foundation to generating accurate insights

Senior management direction

Senior management in OSM lead by example, know when to push through when required and when to adapt

Staying nimble and humble

OSM moves fast in its initiatives, while remaining humble to what it can do better

Close collaboration with government

Strong public-private collaboration through frequent dialogues with MPA, as well as active involvement in initiatives such as the Circle of Digital Innovators (CDO) network and PIER71 Programme

Source: Expert interviews

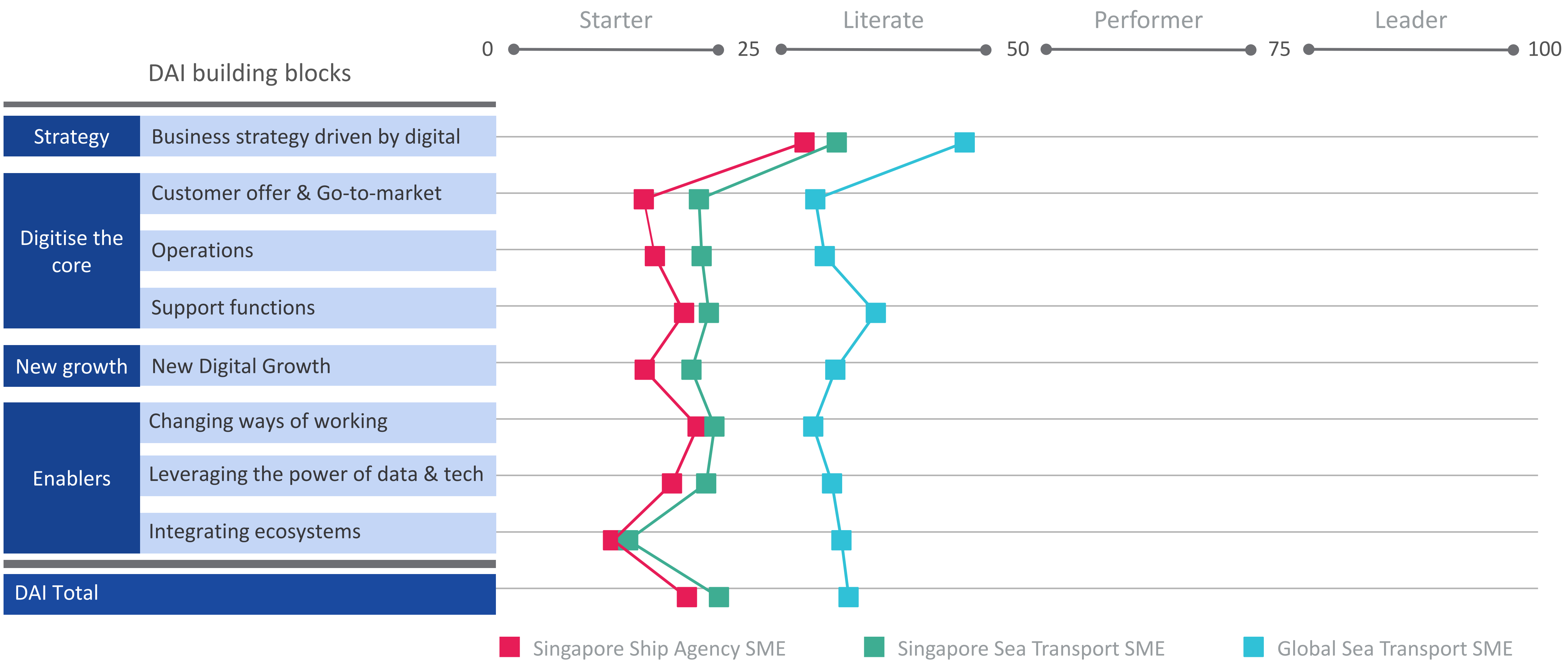
A1c) Ship Agency Supplement

Subsector DAI Scores

Results from the 2020 DAI Sectoral Studies

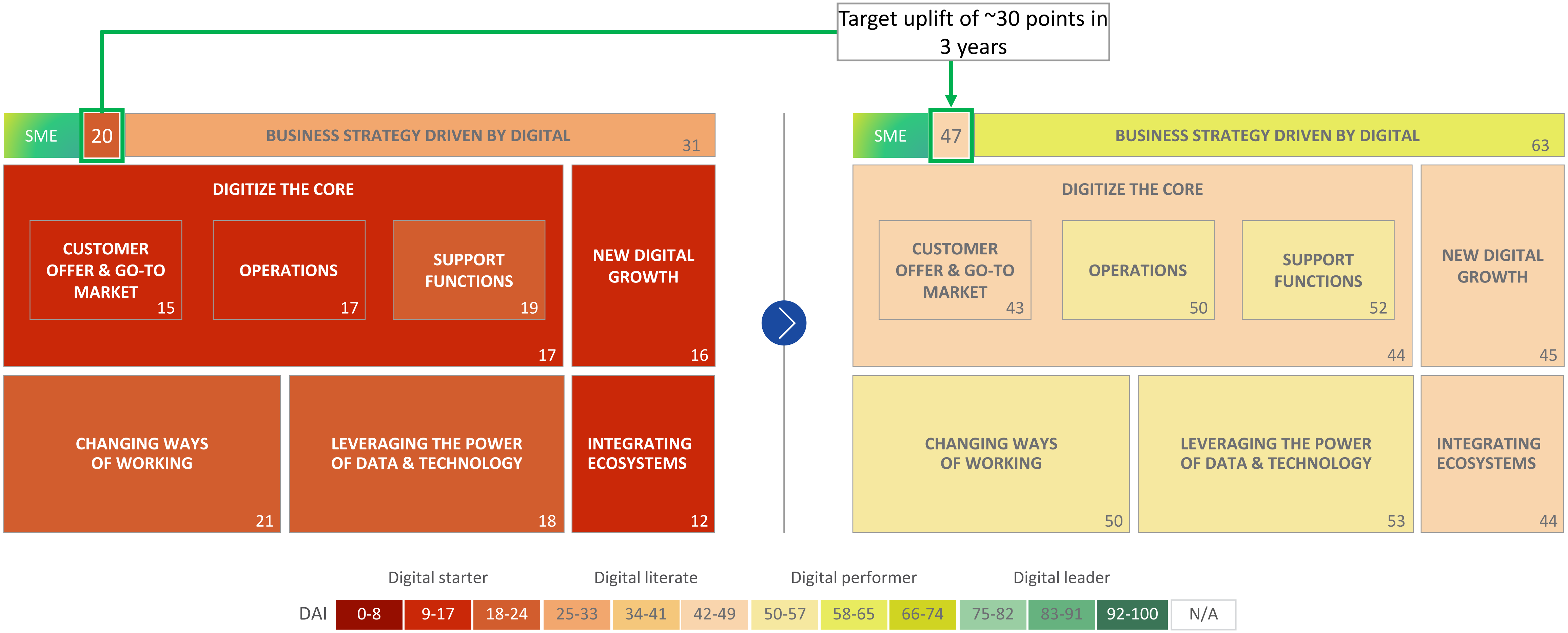
Ship Agency SMEs in Singapore are Digital Starters

Face largest gap with global peers in integration with ecosystems, new digital growth, digitising the core



1. All scores are based on self-reported survey answers, peers refer to organisations in the same sector
Source: IMDA DAI assessment

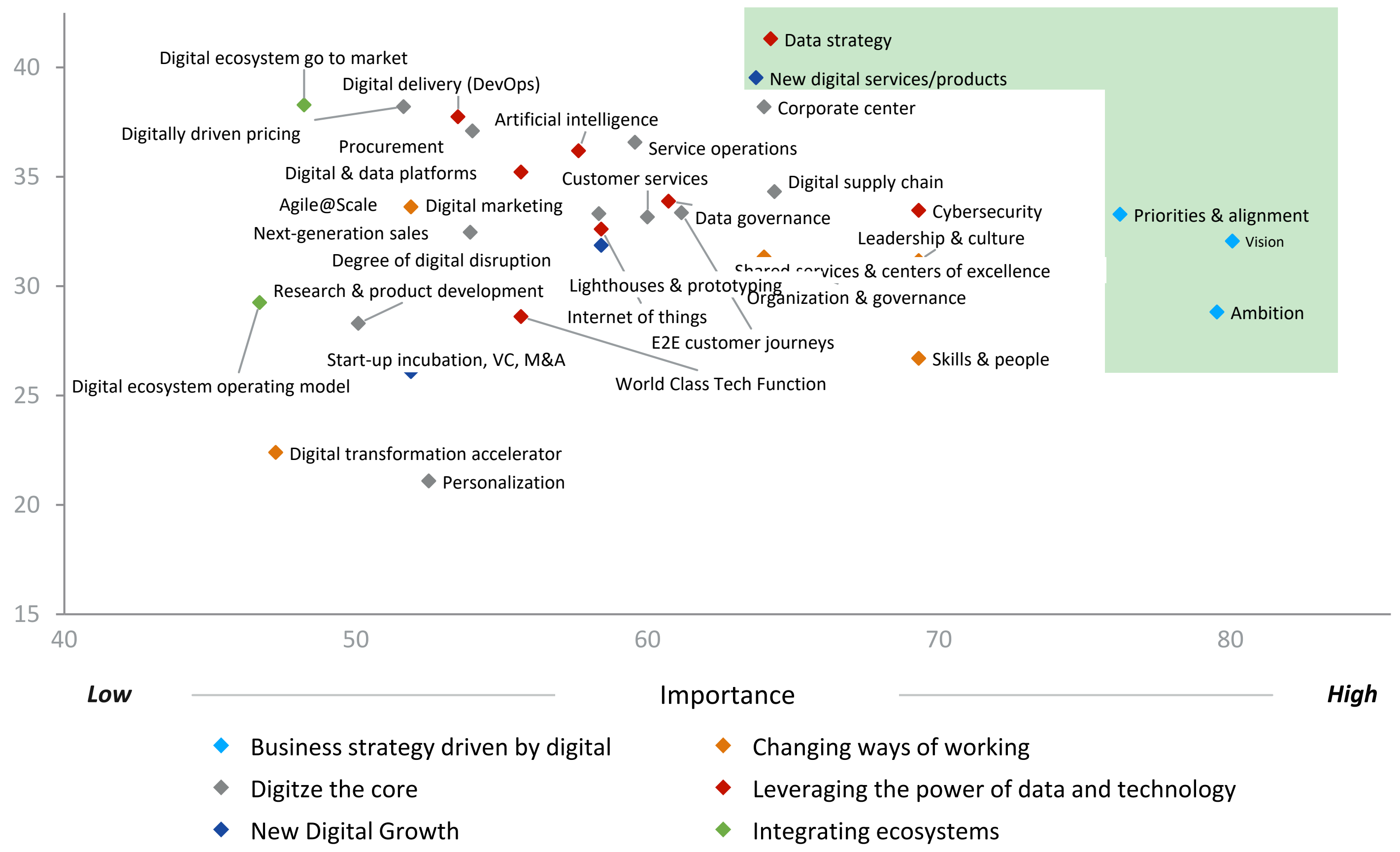
Ship Agency SMEs aspire to be Digital Literates in 3 years' time



Source: IMDA DAI assessment

Ship Agency SMEs: Need to focus on strategy, data, new digital services

Gap between current and target state



Top 5 Dimensions with largest gaps and highest importance

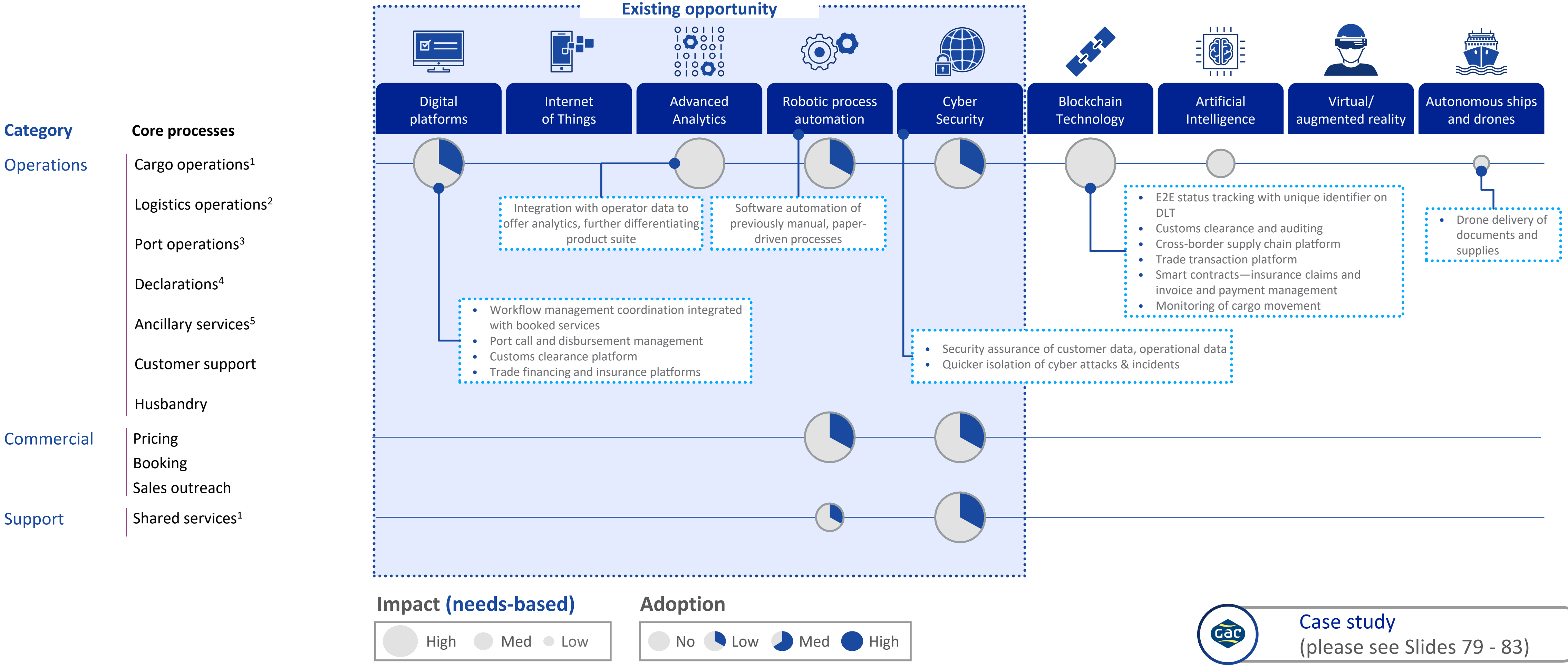
- Vision
- Priorities & alignment
- Ambition
- Data strategy
- New digital services/products

1. All scores are based on self-reported survey answers, peers refer to organisations in the same sector 2. Determined by gap between current digital maturity and target state of organisations in three years
Source: IMDA DAI assessment

Technology Use Cases

How technologies are used by Ship Agency across the value chain

Examples of digital opportunities within Ship Agency



Case study
(please see Slides 79 - 83)

1. Coordination of cargo loading/unloading, documentation etc.; 2. Coordination of warehousing, intermodal operations, etc.; 3. Engagement with classification agencies, port operator (e.g. piloting), chandlers, bunkerers, etc.; 4. Declarations to customs agencies, port authorities, etc.; 5. Coordination with insurers, banks/financiers, legal firms, etc.; 6. HR, invoice/billing, general IT, etc.
Source: Expert interviews, BCG analysis

Case Study: GAC

Highlighting best practices and key success factors

GAC offers ship agency services representi
more than 3500 principals and handling ov
96,000 jobs annually from ~300 global
offices

Given its need to provide accurate information and value-added services in an increasingly commoditised field, how has GAC been digitalising to further improve its leadership position?

GAC has embraced digitalisation and integrated it throughout its organisation and offerings …

Using external digital platforms to improve customer service

More user-friendly CRM
Instant access to customer service team through touch of a button – to schedule Microsoft Teams meeting
Cleaner interface to prevent miscommunication with client, a pain point of ship agencies

Ensuring internal systems are scalable and standardised

Integration of internal ERP systems (e.g. accounting, payroll, procurement) into one single system

Collecting and analysing data as an information source for clients

Vessel tracking and port services platform
Provision of more detailed and accurate information on the ground to supplement shipping lines' own systems (e.g. timing of vessels receiving supplies, bunkering etc.)

Customer-driven data analysis
Informing clients beforehand of information that would aid their own business decisions e.g. ports that are closed as a result of COVID-19

Data-driven internal decision making through business intelligence

Analysis of internal and market data to supplement business decisions and forecasts
Higher frequency of data refresh and automation of data collection through technology

Streamlining the ways of working among staff

Electronic Data Interchange (EDI), enabling staff to automatically register invoices from customer's digital submissions

Robotic Process Automation to simplify highly repetitive processes e.g. invoice processing

Source: Expert interviews

… bringing tangible benefits to its organisation & customers

- Using external digital platforms to improve customer service
- Ensuring internal systems are scalable and standardised
- Collecting and analysing data as an information source for clients
- Data-driven internal decision making through business intelligence
- Streamlining the ways of working among staff

Has brought benefits to …

GAC as a company		GAC's customers
Improved **customer engagement,** keeping customer complaints to a minimal level		**Improved quality of services** with faster customer service and less expectation mismatch
Enhanced decision making within GAC through the use of up-to-date data to supplement critical business decisions	**Increased revenue streams** through the provision of value-added services	**Improved use of data as a source of business insights** with data that GAC can provide e.g. duration of port calls
Increased **productivity** with reduction in manpower needed to handle transaction-related processes	Improved **accuracy** of transactions recorded, and no information lost in transit	**Increased transparency in invoicing,** reducing potential issues and the need to follow up with other service vendors involved

Source: Expert interviews

GAC's digitalisation success is centered around six key success factors, to Run, Grow, and Transform the business

Senior management direction
Senior management in GAC sets clear strategic direction for going digital

Customer engagement
GAC continuously seeks feedback from customers on their pain points and acts on them

Continuous technology upskilling
IT staff regularly refreshes skillsets through latest training programmes and courses (e.g. cloud, cybersecurity)

Delivering tangible benefits
GAC obtains buy-in from its staff by showing how digitalisation can help to improve productivity

Integrating tech development within company functions
Tech development is part of every company function's digital planning process

New products based on digital
GAC makes sure that digitalisation plays a key part in new offerings to its customers

Source: Expert interviews

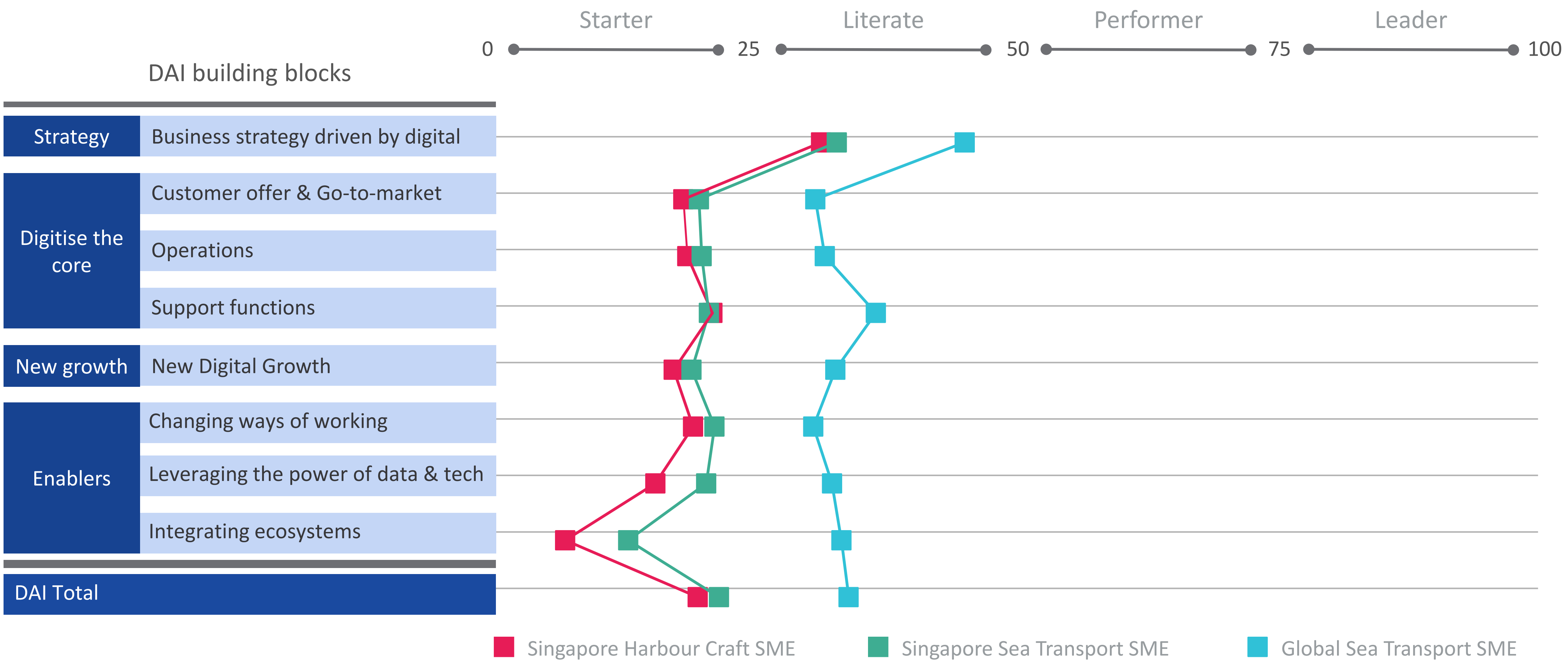
A1d) Harbour Craft Supplement

Subsector DAI Scores

Results from the 2020 DAI Sectoral Studies

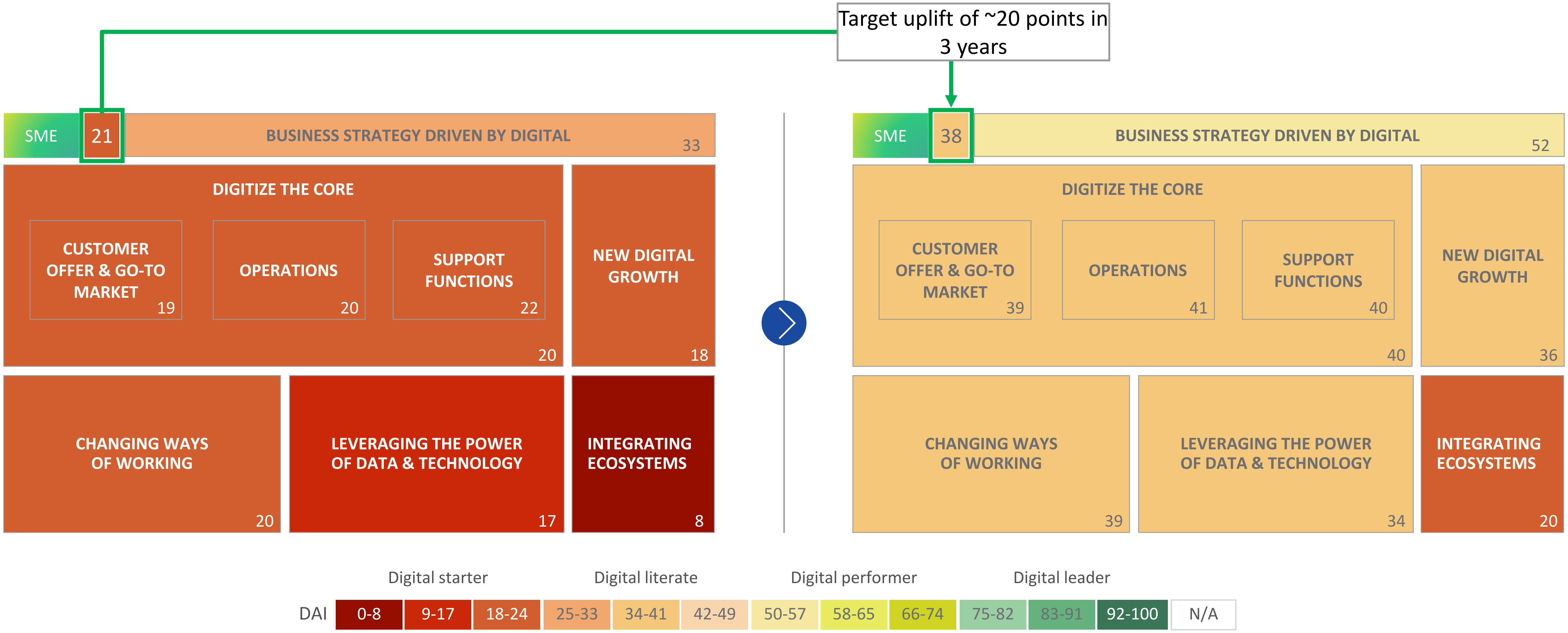
Harbour Craft SMEs in Singapore are Digital Starters

Face largest gap with global peers in integration with ecosystems, data and technology, digitising the core



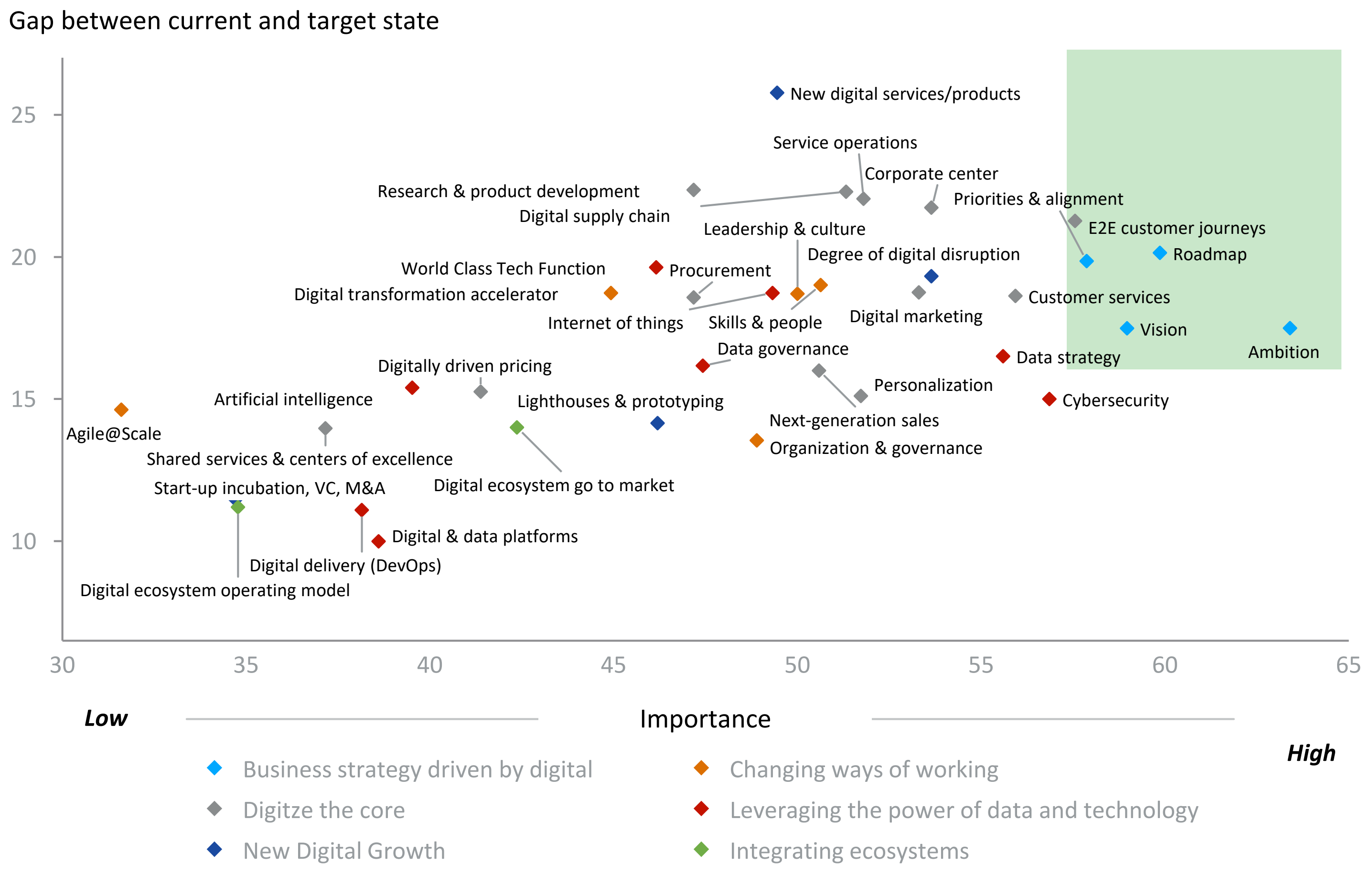
1. All scores are based on self-reported survey answers, peers refer to organisations in the same sector
Source: IMDA DAI assessment

Harbour Craft SMEs aspire to be Digital Literates in 3 years' time



Source: IMDA DAI assessment

Harbour Craft SMEs: Need to focus on strategy and digitising the core



Top 5 Dimensions with largest gaps and highest importance

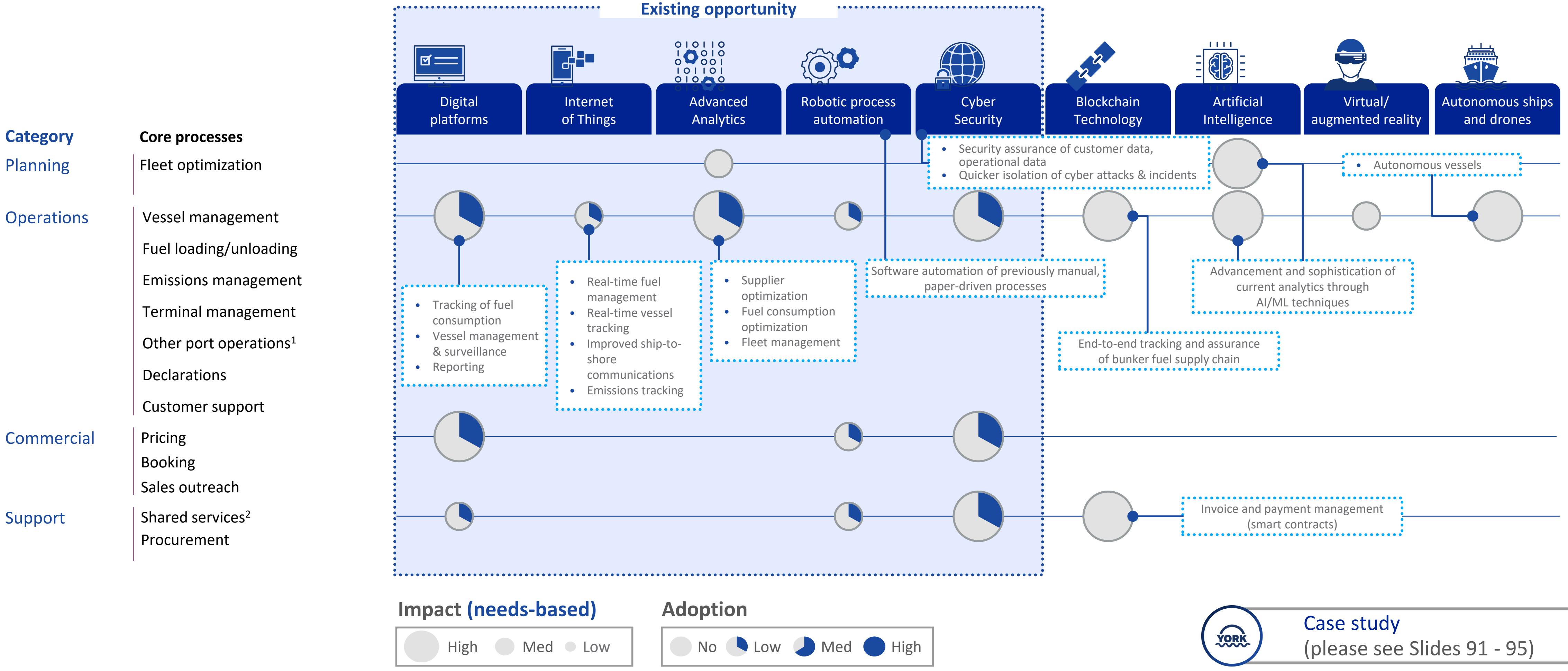
- Ambition
- Roadmap
- E2E customer journeys
- Priorities & alignment
- Vision

Source: IMDA DAI assessment

Technology Use Cases

How technologies are used by Harbour Craft across the value chain

Examples of digital opportunities within Harbour Craft



Case study
(please see Slides 91 - 95)

1. Chandlers, classifications agencies, etc.; 2. HR, invoice/billing, general IT, etc.
Source: Expert interviews, BCG analysis

Case Study: York Launch Service

Highlighting best practices and key success factors

York Launch Service is a launch service provider in Singapore, with over 100 employees and a fleet size of over 38 vessels serving different anchorages

With a focus on improving productivity, customer satisfaction and increasing attractiveness to young talent, how is York Launch Service leveraging digitalisation to be at the forefront as a first mover?

York Launch Service has embraced digitalisation throughout its entire process of conducting business ...

Booking order from customer	**Customer bookings and viewing of orders online and through app** 40% of customers adopted online booking since launch Planned incentives through rebates given for min. orders via online, in-app booking
Order recording in the system	**Single source of truth** 100% of orders recorded digitally in the system
Order execution and deployment of assets to fulfil order	**Informed decision making through real-time information** Vessel management platform tracks locations of vessels in real-time, improving process of pairing bookings with best available vessels Planned use of algorithm in future to optimize fleet management based on timings of orders
Invoicing and accounting	**Digitizing back-end processes** Invoicing and accounting records updated digitally for transparency and easy access

Source: Expert interviews

… bringing tangible benefits to its organisation & customers

- Booking order from customer
- Order recording in the system
- Order execution and deployment of assets to fulfil order
- Invoicing and accounting

Has brought benefits to …

York as a company

Improved **customer service** (able to plan for orders up to 5 days in advance)

Integration with upcoming JIT ecosystem in digitalPORT@SG™, allowing easier customer access

Increase in **time efficiencies** (orders no longer manually entered into system)

Efficient operations planning (using detailed data collected, and in future, through algorithm recommendations, to allocate vessels to orders)

Greater transparency in invoice handling with all records visible through a single point of access

York's customers

Full transparency between parties (shipping lines, ship agencies, port services) on timings of orders

Improved oversight for managers in ship agencies over individual agents' bookings

Reduction in errors with order recording as orders are entered by customers themselves

Ease of access at anytime, anywhere and better safekeeping with records digitized and no longer in hard copy

Source: Expert interviews

York Launch Service’s digitalisation success is centered around five key success factors

Digital vision

York recognized the need to be at forefront of digitalisation to not be disrupted

Delivering tangible benefits

York obtained buy-in from its workforce by showing how digitalisation can improve productivity

Data-driven decision making

Data is generated and analysed to inform decision making of York's operations and management

Close collaboration with workforce

York knows that its workforce will be its most important champions of new initiatives and provide invaluable feedback

Customer Centricity

York is constantly upgrading its offering to ensure customer satisfaction

Source: Expert interviews

A2) Self-Assessment Checklist

If your organisation did not participate in the DAI Sectoral Survey 2020, please use this checklist to conduct a self-assessment of your organisation's current and target digital maturity.

Key dimensions to focus on for your organization (I)

Abbreviations

Shipping Line	-	SC
Ship Management	-	SM
Ship Agency	-	SA
Harbour Craft	-	HC
Sea Transport (avg.)	-	ST

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Business strategy driven by digital

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q1. Which priority does digital have for your organisation, and are you aware of how it affects your industry and business?	• We are aware that digital might impact the industry but have not yet defined a digital strategy	• Digital strategies coexist in several functions or BUs where trends and the impact of digital were analyzed. We understand the disruptive forces of digital	• The digital target state for our organisation is developed, and the vision is articulated organisation-wide. We know what is best in class in our industry	• Digital is number-one-priority topic and integrated part of the CEO agenda; a clear process to update the vision is defined, and a digital strategy across BUs and functions is in place
Please mark your **current position** & **target** in 3 years	SA ☐	SL HC ST SA ☐	SM HC ST ☐	SL SM ☐
Q2. What is your aspiration for the business? To what extent are quantifiable scenarios developed and evaluated across your organisation?	• No ambition developed yet but ideas and options have been elaborated on how our organisation can become more digital	• Scenarios were developed on how our organisation can become digital, but no ambition level has been agreed upon yet	• The ambition level is developed, understood by all parties (business and IT), and approved by the leadership team with specific quantitative and qualitative measures being defined what it means to reach our ambition	• The digital ambition is articulated, understood, and promoted throughout the entire enterprise, and cascading targets have been set to mobilize the organisation towards the target state
Please mark your **current position** & **target** in 3 years	SA ☐	HC ST SA ☐	SL SM HC ST ☐	SL SM ☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (II)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Business strategy driven by digital

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q3. Are you familiar with what digital opportunities and use cases exist for your business? To support prioritization, do you have a formalized process, criteria, and investment strategy in place?	• We are aware of a few digital opportunities across one-off functions in our organisation. The traditional portfolio process does not specifically cater for digital initiatives. Performance of digital initiatives is not monitored	• We are starting to ideate and pilot one-off digital initiatives within select BU's/functions of organisation. In these BUs or functions, individual governance processes are established to prioritise digital in that BU or function	• We are starting to systematically ideate and pilot one-off digital initiatives within select BU's/functions of organisation. A global guideline (process, responsibilities, decision-making) is defined on how to evaluate digital projects regularly based on dedicated measurements	• We have a thorough understanding of opportunities via digital to 'digitise our core' (operations, support functions, go-to-market) and build new businesses. We have a formal process in place to ensure systematic prioritization, cross-functional organisational alignment on investments, and monitoring of digital initiative performance
Please mark your **current position** & **target** in 3 years	SA	HC ST SA	SL SM HC ST	SL SM
Q4. How does your organisation manage the digital transformation journey?	• Digital initiatives are managed in each BU, region, or function individually. There is no overarching plan and no involvement of external stakeholders	• Some digital initiatives are managed across BUs, functions, and regions	• A roadmap of digital initiatives is being developed and frequently reviewed to reach our digital ambition holistically across BUs, functions, and regions. All stakeholders are strongly engaged	• An integrated overall digital transformation journey is defined and globally aligned. We continuously track progress and measure specific indicators, e.g., growth of budget assigned for digital
Please mark your **current position** & **target** in 3 years	SA	HC ST SA	SL SM HC ST	SL SM

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (III)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Digitise the core: Customer offer & go-to-market

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q5. What is your current approach to consistently defining and delivering the best-in-class customer journey experience through digital?	• We have individual customer touchpoints mapped. We use journey mapping tools to visualize touchpoints and journey analytics tools to gather touchpoint data to analyze interactions. We have transaction surveys to measure customer experience for specific interactions	• We have complete end to end customer experience initiatives to map interactions across touch points, channels and products. We leverage human-centered design to reimagine journeys and identify initiatives to improve customer experience. We have episodic customer journey measurement programs in place	• We have cross functional persistent journey teams that are re-imagining and implementing initiatives-transforming operations, technology, products and policies. We implement change initiatives through a series of MVPs. We have comprehensive customer experience measurement programs covering transactions, journeys and overall relationship	• We have multi-year customer journey programs covering majority (60%-80%) of change initiatives in the organisation. We have a cross journey delivery center focused on deep enablement and upskilling of resources & institutionalization of new ways of working. We have comprehensive closed loop customer listening and ongoing testing programs in place. Feedback and research is part of prioritization framework and key decisions
	SA HC ST	SL SM SA HC ST	SL SM	
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (IV)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Digitise the core: Customer offer & go-to-market

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q6. To what degree are you using digital tools and digital-supported processes to improve the research & product development function?	• We use simple digital development tools with limited integration and classical processes for operations feedback. We largely follow standard waterfall development methodologies	• We currently evaluate scenarios on how to improve R&D with digital and run first pilot projects. We have started to integrate/ harmonize our development data and have first teams using rapid development methods	• We use E2E development processes with strong tool support and PDM data backbone. We pilot analytics use cases for faster operations feedback. We have first lighthouse projects to speed up R&D, e.g., via 3D-printed prototypes. Agile is standard in our innovation process, and we use external collaboration	• Our agile development processes and data are inte-grated to get early feedback from operations. Fast and low-cost prototyping is tool-supported E2E (e.g., simulation and 3D printing). We have built and we leverage AI capabilities to become more innovative
	SA HC ST	SL SM SA HC ST	SL	SM
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (V)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Digitise the core: Customer offer & go-to-market

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q7. How do you target customers via digital channels, and how do you run a digital marketing operating model?	• Our digital assets (sites, apps) are fragmented with limited traffic; we are behind our competitors in terms of digital presence; we do not feel we have significant control over digital marketing execution	• We have adapted our investment mix to focus on the touchpoints that matter along the consumer decision journey but do not feel we are able to effectively track and optimise its execution and ROI; we have digital-marketing experts locally but siloed next to "traditional" marketers; we experiment with data-driven targeting and personalization	• A significant share of our consumer activation is in micro-segments, based on audience profiles but also context; we get significant visibility from digital advocacy and influence; we have transparent access to data and technology as well as digital experts that can effectively challenge agencies on digital-campaign execution	• We have clear measurement of the incremental ROI of our digital marketing; we have direct personalized relationships with a significant part of our consumers; digital is a core skill of all marketers in the organisation; there is effective collaboration between marketing, media, agency, and technology teams to design impactful consumer engagement strategies
	SM SA HC ST	SL SA HC ST	SL SM	
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (VI)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Digitise the core: Customer offer & go-to-market

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q8. Do you leverage data and use advanced analytics to deliver a 1:1 personalized experience to customers in a scalable, cost-efficient way?	• We communicate with our customers in segments and lack a strategic agenda for personalization. We miss full data availability, analytic capabilities, and the technology to support personalization at scale	• We started engaging with customer micro-segments, as our current technology only supports the deployment of limited variants, and our targeting analytics is based on simple business rules	• We can deliver 1:1 tailored experiences in individual channels and for different stages in the customer life cycle. We are able to perform the required analytics and deployment in near real time but cannot scale up to a cross-channel experience yet. We do have a long-term strategy and a roadmap in place	• We are delivering fully individualized experiences to our customers across channels and in real time. Our analytics is enhanced by deep learning (AI), and the full marketing technology stack to enable further value optimization via continuous testing is implemented. Our platform is scalable
Please mark your **current position** & **target** in 3 years	SL SA ST	HC SA ST	SM SL HC	SM
Q9. How do you optimise and integrate your sales channels and processes (incl. payment and fulfillment) using digital technologies and analytics?	• Individual channels get optimised in silos. Overall stronger focus on product rather than sales improvement	• Omnichannel integration is currently implemented, and new concepts are explored, e.g., digital stores, inside sales, e-commerce, and customer success	• Omnichannel sales with highly effective sales force supported by CRM. Data not yet exploited to the full potential	• Highly automated and omnichannel sales. Rich data is used to prioritise leads, AI/ML technologies are applied
Please mark your **current position** & **target** in 3 years	SL SM SA HC ST	SM SA HC	SL ST	

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (VII)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Digitise the core: Customer offer & go-to-market

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q10. Do you improve your pricing by applying digital and data-driven technologies and thus gain competitive advantage?	• Basic pricing principles are applied, and only rudimentary pricing tools are in place	• Deploying advanced-analytics tools to optimise pricing, based on segment-specific willingness to pay. Omnichannel pricing process is in place	• Advanced analytics tools and ML are in place to optimise pricing and enable an omnichannel dynamic pricing process. Personalized and differentiated pricing by micro-segments is continuously recalibrated	• Fully digital-enabled, advanced, omnichannel, personalized, and dynamic pricing tools are in place, fully automated with ML
	SL SM SA HC ST	SL SA HC ST	SM	
Please mark your **current position** & **target** in 3 years				

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (VIII)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Digitise the core: Operations

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q11. Do you exploit the benefits of real-time visibility, supply process optimization, and automation to the full extent?	• Many manual activities and fragmentation in most processes, e.g., production scheduling, forecasting, fulfillment. Data is likewise fragmented and often missing or not valid. Customer experience is not leveraged as input for feedback loop into processes	• Some process automation in forecasting, scheduling, network design, segmentation, and sales and operations planning. Inventory is controlled, and supply issues do not disrupt the business. First capturing of CEx, e.g., during shipment tracking. Digital supply chain skills are being developed, and tools are getting used, but still with low integration and simple analytics only	• Real-time end-to-end visibility of suppliers, manufacturers, logistics, inventors, and customer experiences (e.g., demand-sensing). Highly automated processes (order-to-cash, warehouse, fulfillment) with intelligent robotics solutions in place and partners' activities integrated. Data is shared across those integrated systems. Old processes are consequently getting changed by digital	• Highly automated and dynamic supply chain with complete end-to-end visibility, involved ML/AI and blockchain for transactional processes, and risk responsiveness. All chain nodes are connected, e.g., suppliers, (contract) manufacturers, distribution centers, third-and fourth-party logistics providers (3PL/4PL), and customers whose data is monitored to decrease issues, and shorten delivery time. AI and advanced analytics are applied across all supply processes
	SA HC ST	SL SM SA	SL HC ST	SM
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (IX)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Digitise the core: Operations

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q12. To what degree does your procurement organisation leverage digital technologies and analytics to optimise the function?	• Procurement org. uses available data for basic analytics, and transactions are a mix of paper-based and electronic, with high reliance on manual E2E order processing. The organisation does not invest in advanced technology or analytics skills specific to procurement	• Procurement org. has started to integrate data from multiple sources to make informed purchasing decisions. Processes are partially digital with some degree of automation in order processing (e.g., purchase to pay tools). We started to build capabilities and invest in technologies for procurement	• Multiple sources are successfully integrated to visualize and interpret data, make informed purchasing decisions, and manage suppliers (e.g., supplier risk management tools). Processes are mostly digital with room for further E2E automated processing. The organisation is implementing new technologies and further develops skills of the employees to apply advanced analytics for procurement	• Procurement org. leverages a single source of data to run advanced analytics, transactions are mainly digitised, and E2E processes are highly automated. The organisation has a clear IT strategy that involves procurement, heavily invests in related technology (with many new digital tools already rolled out), and has already developed analytics skills of the employees
	SA HC ST	SL SM SA ST	SL HC	SM
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (X)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Digitise the core: Operations

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q13. Are digital tools used to optimise core service processes, e.g., network operations in a telco or utility, risk assessment in insurance?	• Core service processes are run in the traditional way (partly manual), largely supported by legacy systems	• First use cases to optimise single process steps are implemented, e.g., analytics for churn prevention and prediction tools to prevent faults. Legacy systems are getting replaced	• Use cases along processes on a stand-alone basis are implemented, but no E2E optimization across processes yet. Substantial successes in replacement of legacy systems being identified. AI gets leveraged to replace humans in execution	• Core service processes are optimised E2E and interlinked via automated workflows. Digital tools are leveraged like analytics robotics (and AI) to increase efficiency and effectiveness. Legacy systems have been replaced
	SA HC ST	SL SM SA	SL HC ST	SM
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XI)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Digitise the core: Corporate center

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q14. Are digital technologies and opportunities holistically deployed across the corporate-center functions or part of a roadmap to digitise center functions?	• Low degree of digitization in corporate-center functions; opportunities are passively observed by functional leaders but not pursued	• Relevance of digitization in center functions is seen for strategic processes, such as decision-making, and pilot projects are launched to explore the opportunities and as POCs	• Selected corporate center functions are driving the digital agenda based on proven use cases, especially AI and advanced analytics are pursued in expertise-driven processes and for decision support. However, overarching strategy, innovation approach, and roadmap across functions are still missing	• Digitization for center functions is on top of the agenda of all functional leaders and a part of a holistic digital transformation agenda. Digitization benefits are realized, such as fewer human errors, less downtime, and better decision-making. AI/ML are key enablers for center functions and make work much more convenient and flexible
	SA HC ST	SL SM SA HC	SL ST	SM
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XII)

Legend	SL	SM	SA	HC	ST
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Digitise the core: Corporate center

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q15. Are processes, especially in the SSC, digitised and automated using RPA in order to enable the SSC to become a full service provider?	• Low degree of digitization in front-and back-office processes. Many administrative tasks remain heavily manual. In shared services, only basic technologies like BPM are used	• The relevance of RPA/AI is well understood, and pilots are launched to explore opportunities. First processes are streamlined to support RPA. Basic RPA expertise is anchored and developed in the SSC organisation	• Advanced technologies like RPA and AI/ML are used to automate several E2E processes. A systematic rollout is planned to digitise SSC operations and adjust the operating model. Non-automated processes undergo streamlining, and internal and external platforms for automation are used	• SSCs have achieved a very high degree of automation in desktop and back-office core processes using RPA and AI/ML. The SSC operating model is adaptive, multi-disciplinary, agile, and with new capabilities. SSC is a full-solution service provider, located onshore and near/offshore
Please mark your **current position** & **target** in 3 years	SL SA HC ST	SM SA ST	SL HC	SM
Q16. Are digital interactions leveraged substantially? Is each customer service channel (call center, web, app, mail, email, chat, etc.) optimised for efficiency and effectiveness using digital technologies?	• Predominant interaction channels are physical; no use of digital or self-service tools in front-end (e.g., chat bots, IVR) and in back-end functions. Reactive customer service	• Traditional digital channels (web, app) are in place (with room to improve from quality point of view) and with substantial share (10-30%); initial pilots in applying digital tools (esp. robotics) in back office	• Traditional digital channels are optimised from customer experience point of view, strong share (30-50%). Pilots in front end (AI, biometric voice identification) as well as delivery (e.g., affinity matching of agents)	• Mix of contact channels (physical/nonphysical) fully optimised, typically high share (> 70% of digital interactions). Largely proactive service (anticipating complaints). Digital tools fully exploited to maximize efficiency and effectiveness (e.g., upselling) of each customer interaction
Please mark your **current position** & **target** in 3 years	SM SA HC ST	SL SA HC	SL SM ST	

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XIII)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

New digital growth

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q17. How does your organisation foster digital innovation, identify opportunities and white spaces, and develop and commercialize new digital offers?	• We just started to foster digital innovation between product managers and customers to identify new digital value pools	• We have started to complement our core offerings with digital services. We have started to experiment with consumer-led innovation and to identify new value pools but rather ad hoc, not really structured	• We have led most of our core offerings into the digital space, and we digitally enhanced the remaining non-digital offerings. We launch new products (value pools) quickly	• We monitor the markets and new incumbents, and proactively innovate our core offerings to become digital. We are very early in the market with integrated offers (fast time-to-market)
Please mark your **current position** & **target** in 3 years	SA HC ST	SL SM SA	SL HC ST	SM
Q18. How aggressive are you in trying to revolutionize your own industry?	• We are disrupting our customer journeys but currently just for the same products	• We are disrupting our product offering and customer experience	• We are disrupting our business model and inventing new businesses, and we are on the way to profitability	• We have successfully launched a digital disrupter in our industry which is profitable. We have entered adjacent markets with new offers
Please mark your **current position** & **target** in 3 years	SL SA ST	SM HC SA ST	SL SM HC	

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XIV)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

New digital growth

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q19. How do you mobilize your organisation for digital?	• Our people know digital disruption is a priority	• We experiment with prototyping to set teams in motion in an agile way and to validate the feasibility of a potential product	• Several times we have used lighthouses and prototypes resulting in our employees, clients, and shareholders being proud of the organisation. We have a strong experimental mindset	• Lighthouse projects and MVPs set the direction of where digital evolves in our organisation; they are well recognized externally and also serve to promote the potential of digital corporate-wide
Please mark your **current position** & **target** in 3 years	SA HC ST	SL SM SA ST	SL HC	SM
Q20. How do you capture the value and the business coming from disruptive digital organisations?	• We are benchmarking our competitors but have no relationships and have not yet invested in any disruptive organisations	• We bought start-ups and have some cooperation with start-ups, and we drive incubation with external teams	• We have successfully launched disruptive businesses and joint ventures. We have an M&A strategy defined for partnering and venturing	• We use all options to advance in digital: Incubation, venturing, and M&A. We continuously launch disruptive concepts, and we scale up
Please mark your **current position** & **target** in 3 years	SL SM SA HC ST SA	SM HC ST	SL	

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XV)

Legend	SL	SM	SA	HC	ST
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Changing ways of working

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q21. In your organisation, is digital institutionalized through leaders and cascaded throughout the organisation fostering a cultural change?	• There are no dedicated leaders to manage or drive digital initiatives, also the awareness is missing, and digital is not aligned with business objectives. Initiatives are executed in silos and in traditional ways (with no defect culture)	• We onboard digital talents into new roles and introduce them to the steering boards. The organisation has started to adapt towards digital and works collaboratively under good executive guidance. Digital gains awareness and is already partly aligned with the overall business strategy	• Digital leaders/champions are appointed and incentivized to make quick decisions, take risks, and experiment. The mindset of the organisation is strongly adapting towards digital, e.g., applying new methodologies (campus approaches, agile, fail-fast culture, etc.). Also, non-digital leaders drive digital change and transform the organisation towards digital. Digital and business strategy are strongly aligned	• Digital leaders are fully empowered and have a strong seat in decision boards. Digital is cascaded top-down in all functions and BUs. Digital is the new normal, and the whole organisation (incl. non-digital leaders) is adapting and optimizing with digital driven by digital champions. Fail-fast-and-improve is the new culture, and team performance is incentivized. Digital is the de facto business strategy
	SA ST	SL SM HC SA	SL SM HC ST	
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XVI)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Changing ways of working

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q22. Where is digital anchored in your organisation, and do the current governance structures foster digital, e.g., prioritise digital initiatives?	• No deliberate organisation of digital, little or no digital coordination, at best some single experts working in silos. Digital is not driven by current governance, and activities are not synchronized. Digital is purely opportunistic, and there are no measures (KPIs) for digital	• Digital is still executed decentrally, but there is a central governance, just with small budgets and no decision rights to push digital across BUs and functions. There is some global alignment on central transformative topics. Very basic KPIs (rather IT-related) are defined for measurement	• Central or hybrid organisation of digital with centers of excellence in BUs and functions, sometimes executing in silos, but sharing cross-sectoral topics. Digital is fostered by central governance (funding, staffing, etc.), and KPIs are in place to measure progress in digital. Often a CDO is assigned, either centrally or in selective BUs/functions	• Digital is ingrained in the day-to-day paradigm across the whole organisation. There is a strong inter-BU and functional collaboration as well as top-down incentives (KPIs, governance) to make digital a prio-1 topic. Processes like staffing and funding are fully adapted to support the fast-paced environment. The organisation operates like a tech organisation
	SA HC	SL ST SA	SM SL HC ST	SM
Please mark your current position & target in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XVII)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Changing ways of working

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q23. How do you attract and hire digital talents and develop the required digital skills across your organisation?	• We are currently struggling to attract and recruit digital talent. So far, we don't have a recruiting and upskilling plan or general training mechanisms to develop digital skills. The digital skills needed by our employees are under development and need to be improved	• We are addressing recruiting of digital talents with first initiatives, but we do not have a strategic workforce plan. We have developed a basic approach for upskilling and training, focused on selected digital skills. Some of our employees are already equipped with the necessary digital skills, but the majority are not yet there	• We have a dedicated people strategy to attract, onboard, and retain digital talent, based on a holistic workforce plan. We also run programs to upskill and train our employees. Most employees already have the digital skills they need, and our entire workforce will soon be at this stage	• We are among the top organisations in terms of attracting, recruiting, onboarding, and retaining digital talent. We base our actions on a clear digital strategy and long-term workforce plan. Our trainings and upskilling mechanisms are at the forefront of digital. Our workforce is one of the most digitally skilled in the market
	SA HC ST	SL SM SA	SL SM HC ST	
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XVIII)

Legend

Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Changing ways of working

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q24. Do you apply agile delivery principles across a wide range of the organisation, in both business and IT?	• We experiment with agile ways of working; we have a few agile pilots ongoing as well as a few successful agile teams up and running. New roles are getting defined, e.g., scrum master, and agile coach	• Our agile operating model has been defined and is continuously evolving. We have a portfolio of stable agile teams and have successfully established the required interfaces with the rest of the organisation	• Agile culture and agile product delivery are rolled out across businesses and IT, delivering measurable business value for a complete business line or market. Organisational, governance, and technology agility enablers are addressed to foster agile	• E2E agile product delivery is deployed across (most of) the enterprise. Agile ways of working extend beyond (digital) product delivery into other parts of the enterprise. Teams work autonomously with a clear customer focus
	SL SM SA HC ST	SA HC	SL SM ST	
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XIX)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

	QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Changing ways of working	Q25. To what extent are you driving the build-up of capabilities to bring your transformation at scale?	• Scattered initiatives, no consistent approach, neither methodologies, nor talent management to manage and drive build-up of digital expertise; no dedicated accelerator center operating to own and drive digital	• Talents are recruited in a dedicated unit with the mandate to drive digital across the organisation; limited spread of digital resources; some coordination but limited momentum. Units start working in agile ways	• In a dedicated unit (accelerator center) talent pools are structured, and processes, governance, and toolbox are in place (including Agile@Scale in IT). Value creation potential is confirmed	• Digital talent pool is recognized and successfully delivering digital projects, effectively articulated across the organisation through control towers, with a focus on value generation. The accelerator center is the showcase of the future digital operating model
	Please mark your **current position** & **target** in 3 years	SM SA HC ST	SL SA ST	SL HC	SM
Leveraging the power of data & technology	Q26. Do you fully understand the value that data can create, also from use cases, and have you implemented a structured plan to realize this value?	• The organisation has started experimenting with use cases and POCs, but data is not part of the top-management agenda. Potential value of data has not been assessed	• Selected BUs have started assessing the value that can be generated from data. Several successful POCs are in the process of industrialization and receive funding, but no longterm agenda is defined	• A data strategy clearly is part of the top-management agenda. A data value map (i.e., structured collection of use cases) is developed, and a comprehensive roadmap for implementation is built. A structured POC pipeline is starting to be developed. Funding is available at enterprise level for infrastructure and HR data	• Data clearly is recognized as a key corporate asset. Several applications and datadriven business models have been industrialized. Data value realization has spread throughout the organisation, and data value contribution gets measured regularly. Our organisation highly invests in data projects and respective resources
	Please mark your **current position** & **target** in 3 years	SA ST	SL SM HC SA	HC ST	SL SM

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XX)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Leveraging the power of data & technology

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q27. Do you have the organisational structures necessary to effectively and efficiently govern data and analytics?	• Data is still managed by IT with limited input from business. No central function or Clevel appointed to assure cross-organisation data management	• A CDO has been appointed and started implementing a structured data governance approach (incl. on regulation). First global data governance policies and procedures are planned	• A fully functional data organisation exists, under a CDO reporting to top management. The CDO organisation includes design authorities for data platforms and data architecture. A governance charter for data is defined, incl. policies and tools. Data quality has significantly improved	• All key data and analytics governance roles have been implemented and are fully functional, in a hub-and-spoke operational model covering the entire organisation, where also all data domains are defined. Data and analytics leadership is included in all corporate governance processes
	SA HC ST	SL SM SA HC	SL ST	SM
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XXI)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Leveraging the power of data & technology

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q28. Do you leverage AI to improve your offerings and business processes as well as to achieve significant business value?	• Basic understanding of AI in parts of the organisation but neither larger adoption nor use case prioritization. No AI job profiles exist and the common perception is that AI could be covered by existing analytics experts like statisticians	• Awareness of major use cases enabled by AI on management level, with first pilot project (s) to assess their impact, e.g., NLP or deep learning. Job profiles (e.g., data scientists) are being defined with explicit AI and machine learning skills demand	• Major AI use cases are defined and prioritised with first value-generating lighthouse implementation and clear responsibilities to drive adoption and experimentation. Current focus is just on parts of the value chain, but here AI becomes key for decision-making and to create new value pools	• AI is successfully adopted in core offerings and processes, providing competitive advantage. AI is rolled out across the whole value chain and shapes new business models. AI is key to decision-making in the organisation
	SL SM SA HC ST	SL SA HC ST	SM	
Please mark your current position & target in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XXII)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Leveraging the power of data & technology

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q29. Do you have an efficient data platform in place to deliver significant business value from data?	• Traditional data warehouse systems for historical data in place, but often lacking efficient MDM functionalities and clear referentials. Analytics are mainly descriptive and run primarily through packaged BI and database tools via batch feeds. Analytical resources are disseminated across the organisation	• Fit-for-purpose systems using a mix of traditional technologies and an efficient but small Hadoop/Apache big-data platform. Most MDM issues are addressed. Data lakes are in advanced testing. New ways to improve analytics with dashboards, interfaces, or high performance data platforms are investigated	• Fit-for-purpose enterprise-level platform based primarily on Hadoop/Apache ecosystem or cloud resources for batch-processing solutions. Predictive analytics has become a key input in most operational and strategic decision-making, using modern visualization and also geospatial analyses. MDM issues are being fully addressed at enterprise level. Data lakes exist and offer new analytics possibilities	• Fully optimised batch and streamlined big-data infrastructure, based on best-in-class technologies originating primarily from the Hadoop/Apache ecosystem or cloud resources. One or more data lakes are fully functional and in production, supporting advanced-analytics tools (real-time capability). This technology has become a key enabler to offers new business models. There is also an enterprise-wide analytics resources strategy
	SL SM SA HC ST	SA	SL SM HC ST	
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XXIII)

Legend	
Current position for average SME	SL SM SA HC ST
Target state for average SME	SL SM SA HC ST

Leveraging the power of data & technology

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q30. How future ready is your IT/Tech operating model, workforce, and partnership with the business functions?	• The tech organisation is reflecting geographies to allow market proximity and local synergies. The business and tech functions are entirely separated in silos. The relationship of business and tech is a typical customer-supplier relationship	• The tech organisation structure is reflecting business functions to enable group wide synergies. Tech resources are clearly aligned to business needs and have built product and business expertise	• The tech function structure is reflecting products or platforms to align tech with product lifecycles. Tech organizes workforce in chapters and tribes that retain a line organisation. Tech is heavily involved in strategic and business planning, comes up with own ideas, and challenges business requirements	• The tech organisation structure is reflecting customer groups or channels. Tribes and chapters are self-organizing across the entire organisation. Tech is a strategic partner of the business and integral part of the strategic and operational business planning and decision making
	SA ST	SL SM HC SA ST	SL SM HC	
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐
Q31. Do you apply DevOps and continuous-development principles for IT development and operations?	• No clear ownership for digital products, strong silo-thinking with individualized processes for development and deployment, mostly manual testing	• Business and development teams jointly collaborate, some script automation for testing and pilots for self-services or delivery of infrastructure provisioning	• Same responsibility for development and deployment. Teams are using code repositories, and processes are similar for all stages of the software development life cycle except for deployment. Strong DevOps culture	• Full-service responsibility and self-organizing communities. Automated testing, standardized processes, and real-time infrastructure provisioning for development, testing, and deployment
	SA HC ST	SL SM SA HC	SL ST	SM
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XXIV)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Leveraging the power of data & technology

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q32. How effectively is your organisation leveraging connected things to unlock additional value?	• Limited recognition of benefits of IoT to the business and limited assessment of hurdles to implement IoT technology in the organisation's products or services	• Some prioritization of potential use cases where IoT can be implemented and can enable value capture and IoT pilots are planned or in progress. Some gaps in technology that are being addressed in roadmaps	• IoT is already deployed in key use cases with benefits in operational improvements or enabling new business models. Technology is aligned with currently implemented use cases. Organisation has key roles to unlock full value of IoT, incl. analytics, and HW/SW, OT skills	• Advanced IoT-enabled business model, such as data orchestration, new services, or platform capabilities. IoT is a key consideration for current and future business model design across BUs and value chain. Active participant in the IoT ecosystem with active complementary partnerships
	SA HC ST	SL SM SA	SL SM HC ST	
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XXV)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Leveraging the power of data & technology

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q33. What are the maturity and breadth of your CS governance, strategy, and architecture?	• CS is handled by the IT organisation and is not very visible in the organisation. There is little business involvement. We have not formally identified our key business assets but have deployed some protection and detection technology (e.g., antivirus software and firewalls)	• A CS program is in place, headed by a CISO (or similar) for our existing business, and includes documented governance, strategy, and architecture. However, we don't have a comprehensive view of business assets and have not broadly implemented CS best practice throughout the organisation	• Our CS program is centered and prioritised around business assets and risks. Security is a priority for senior executive leadership who push "security culture" across the organisation. Security is implemented "in-depth," i.e., in technology, processes, and people. All digital initiatives consider CS from the beginning	• The CS program covers all domains (business IT, industrial IT, and product IT), as well as all parts of the value chain (organisation, suppliers, distributors, customers, and others). We have built extensive cyber-intelligence capabilities, i.e., to actively look for threats to our assets (e.g., searching the dark web), research new security technology (e.g., security analytics), and deploy offensive techniques to identify vulnerabilities in our systems (e.g., red teams)
	SA	SL SM HC ST SA	SL HC ST	SM
Please mark your current position & target in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

Key dimensions to focus on for your organisation (XXVI)

Legend					
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Integrating ecosystems

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q34. Are the customer value proposition and the required partnerships to deliver it defined, and how is value shared among digital ecosystems members?	• Our strategic goals do not reference partnering in a DE. We do not participate in any DE, and have limited understanding about the opportunities DEs offer to create value. In that regards, we are rather in a supplier role to organisations who participate in DEs	• We started to define a value proposition and which customers we want to target via DE. We have formed 1:1 partnerships but not yet a digital ecosystem community. We align sporadically on our strategic goals with some of our partners. As we rather pilot some of our partner or DE offerings, we do not exploit the full value potential yet	• We successfully deliver digital solutions with DE partners and can say we are a key player in this community. Not all of our customer are targeted yet, so we push for broader adoption and we promote and communicate our vision to customers. As we more and more align on strategic goals across the whole DE, value creation mechanisms are being refined	• A material part of our business, so a double digit % of revenue, comes from delivering digitally enabled and integrated customer value propositions through DE. We orchestrate a wide range of partners including start-ups. All DE members are aligned on strategic goals and how value is shared. The ecosystem grows in a sustainable way
	SA HC ST	SL SM SA HC ST	SL SM	
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Key dimensions to focus on for your organisation (XXVII)

Legend	SL	SM	SA	HC	ST
Current position for average SME	SL	SM	SA	HC	ST
Target state for average SME	SL	SM	SA	HC	ST

Integrating ecosystems

QUESTION	DIGITAL STARTER	DIGITAL LITERATE	DIGITAL PERFORMER	DIGITAL LEADER
Q35. Is the right DE governance and organisation established and are methods in place to share data among DE members?	• There is neither a dedicated organisation nor talent and skills to manage DE. We have not yet agreed on rules of engagement (e.g., decision making or IP protection) with partners, therefore, data and processes for running a DE are not yet defined as well	• We are currently setting up an organisation to manage DE and recruit or upskill FTE to operate it. In that regards, we also started to align with potential partners on engagement rules. The process mapping and integration effort pick up as we expect to share data with partners soon	• Our DE is operating successfully with a small set of partners with whom we make joint decisions, share data (within defined rules) and our DE processes and infrastructure are stable. Our people are learning together with our partners' people-how to create value from the DE. Still, in many ways we are still experimenting, but we have started to operationalize our strategy to scale up our DE	• We have a DE operating model that successfully orchestrates multiple partners and ecosystems and has a clearly define governance. Our model is geared towards both DE orchestration and participation, and the rules of engagement are individualized by partner. Our IP and data is well protected and securely shared using dedicated platforms and with clearly articulated processes and data management approaches
	SL SM SA HC ST SA	HC ST	SL SM	
Please mark your **current position** & **target** in 3 years	☐	☐	☐	☐

Note: Current and target states for each of the sub-sectors are based on the DAI 2020 survey, where the sample size is 158 for SMEs. Please also note that DAI scores can be continually refreshed by organisations, potentially resulting in a change in current or target states for the sub-sectors. The DAI is a proprietary BCG tool. We would encourage you to participate in the 2021 DAI survey to receive your individualized results.

A3) Digital Transformation Proposal Template (Guide)

A template for you to pitch your digitalisation initiatives

There are 6 sections to the Digital Transformation Proposal Template

It provides a structured approach in thinking about digitalisation efforts and in presenting your digital initiatives to key stakeholders

0 Executive summary

1 Strategic rationale

- 1a Vision – the "Why"
- 1b Initiatives – the "What"
- 1c Enablers – the "How"

2 Implementation plan

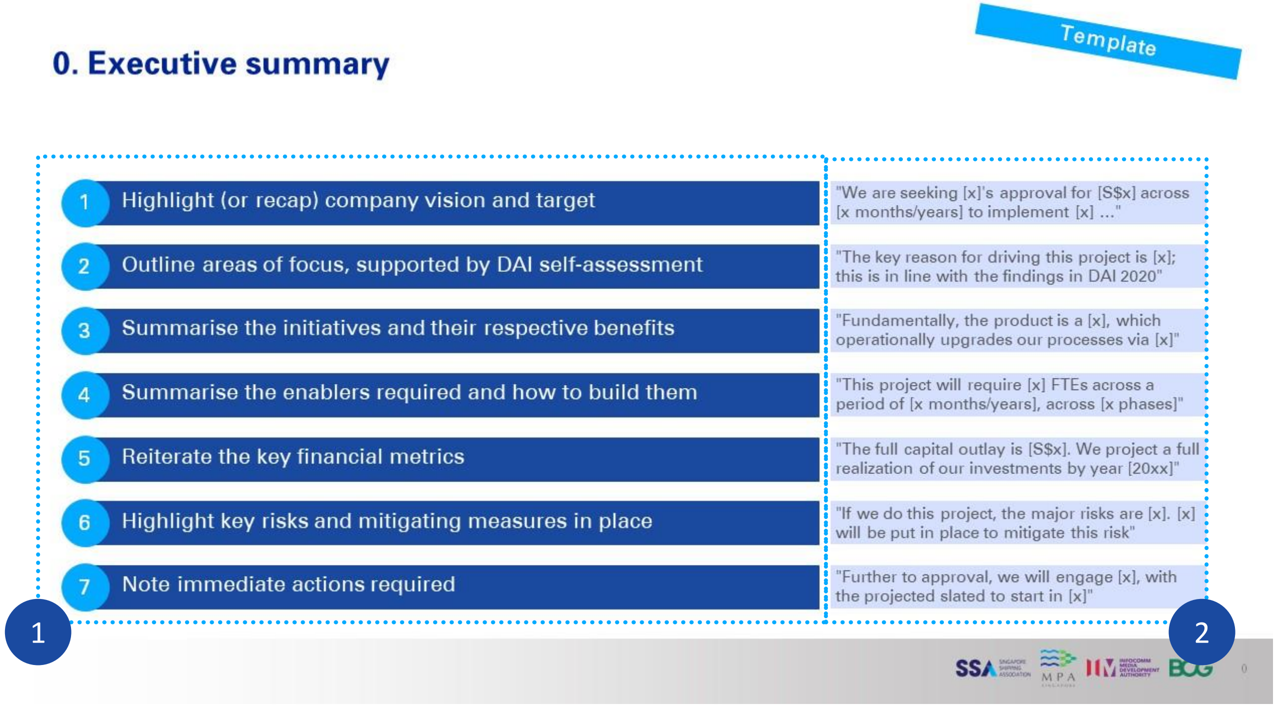
3 Financials

4 Risks and mitigants

5 Immediate actions required

0. Executive summary

Create a crisp, concise summary of the proposed initiative



1. Summarize the following sections in this template. Note that this should be done after completing the subsequent sections
2. Refer to the sample text as an inspiration for the content to include here

1a. Vision

Create a vision that is clear and measurable

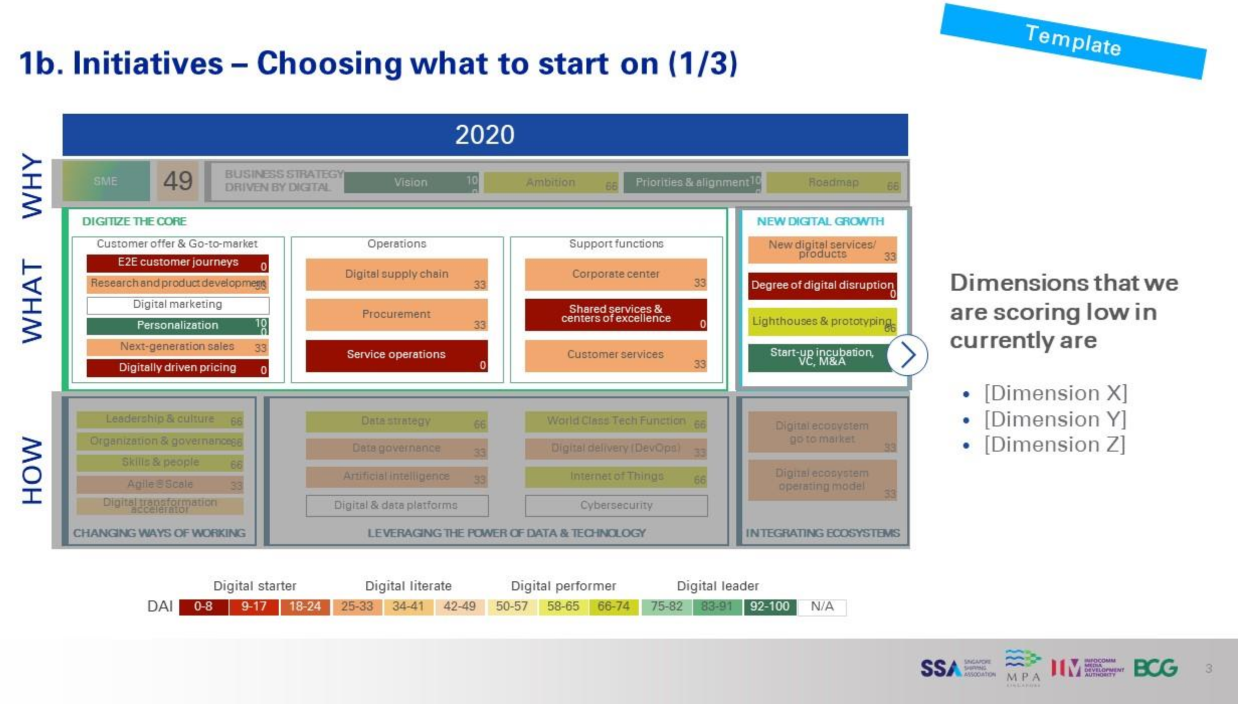
Instructions

1. Have a clear goal that is communicated to the whole organisation
2. Ensure that the goal can be measured by defined KPIs[1]
3. Define a period to achieve the goal

1. Key Performance Indicators

1b. Initiatives – Choosing what to start on (1/4)

Examine the "What" dimensions in your current maturity heatmap[1]



How to read the current maturity heatmap

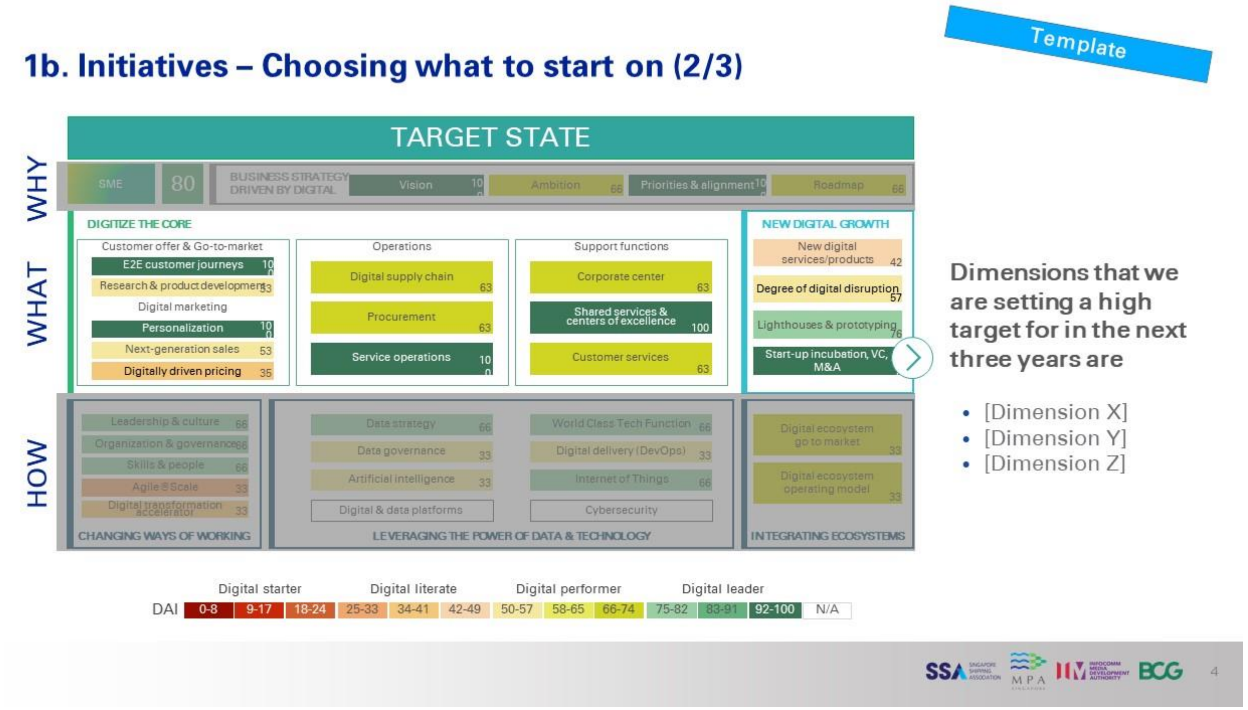
- There are 35 dimensions in the heatmap
- Each dimension belongs to one of 6 blocks
  - Business strategy driven by digital
  - Digitize the core
  - New digital growth
  - Changing ways of working
  - Leveraging the power of data & technology
  - Integrating ecosystems
- Each dimension's score indicates your organisation's current maturity for that dimension
- You can shortlist the "What" dimensions that your organisation is scoring lower in as potential areas in which to propose initiatives

1. Provided in the giveback pack by IMDA, based on self-reported survey answers of each organisation. If your organisation did not participate in the DAI survey, please use the Self-Assessment Checklist in Annexe 2 to determine your current maturity.
Source: IMDA DAI assessment

Instructions

1b. Initiatives – Choosing what to start on (2/4)

Check which dimensions you are setting a high target for in your target maturity heatmap[1]



How to read the target maturity heatmap

- Each dimension's score indicates your organisation's target maturity for that dimension in 3 years
- Consider shortlisting dimensions that are also scoring higher for target maturity

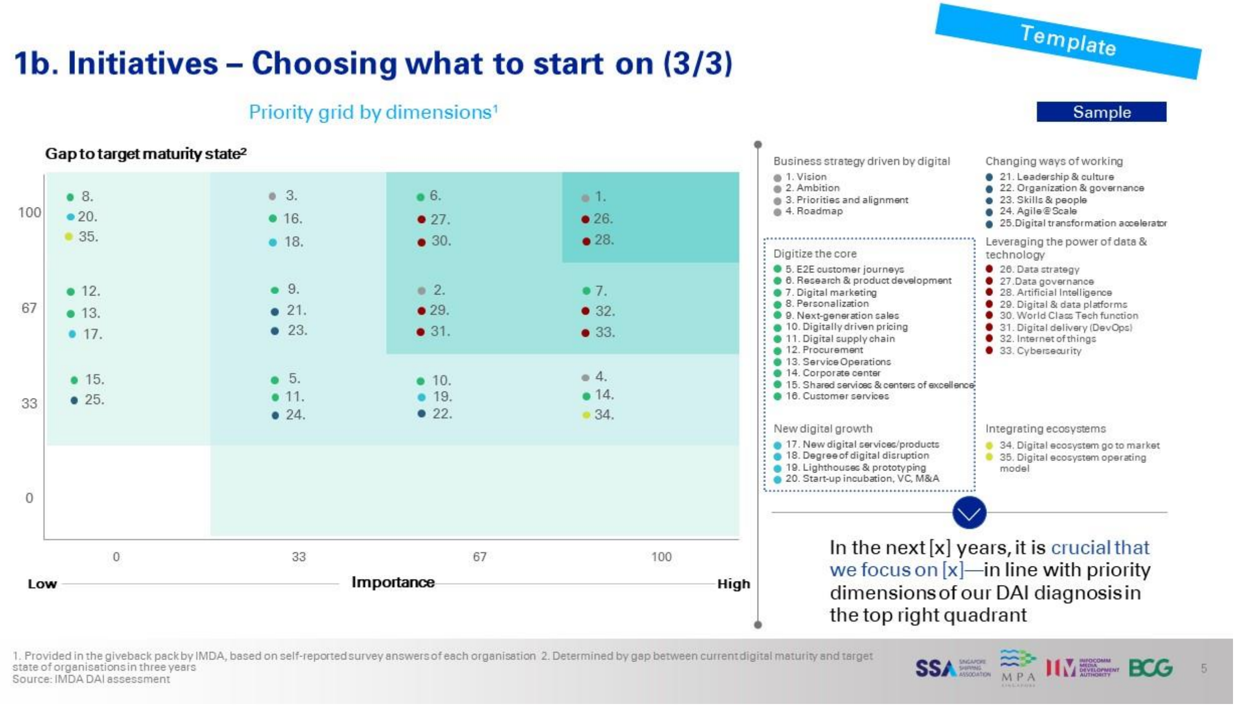
1. Provided in the giveback pack by IMDA, based on self-reported survey answers of each organisation. If your organisation did not participate in the DAI survey, please use the Self-Assessment Checklist in Annexe 2 to determine your target maturity.

Source: IMDA DAI assessment

Instructions

1b. Initiatives – Choosing what to start on (3/4)

Use the priority grid[1] to cross-check if your selected dimensions have the largest gaps and most importance



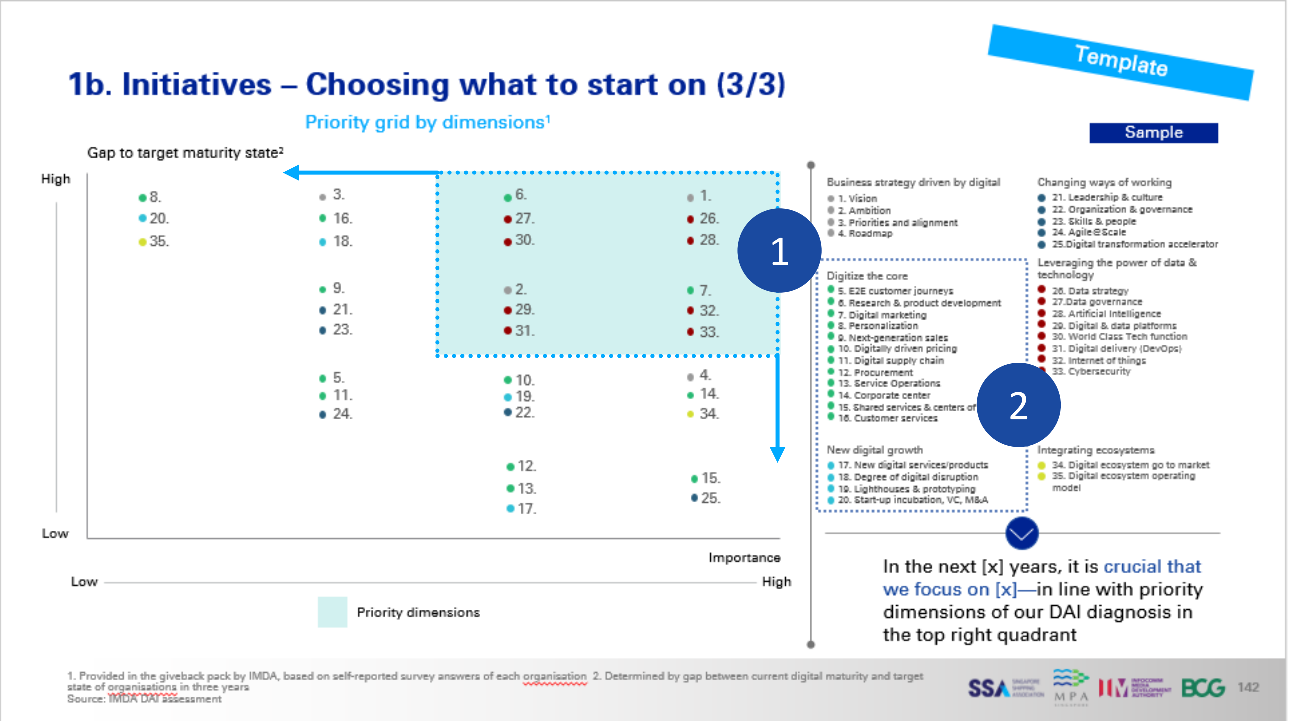
How to read the priority grid

- Each dimension is arranged in the grid based on its gap between current and target states (vertical axis), and its importance (horizontal axis)

1. Provided in the giveback pack by IMDA, based on self-reported survey answers of each organisation
Source: IMDA DAI assessment

1b. Initiatives – Choosing what to start on (4/4)

Use the priority grid[1] to cross-check if your selected dimensions have the largest gaps and most importance



1. Focus on dimensions in the blue-shaded quadrant (You can expand further from the quadrant if required)
2. Determine which dimensions belongs to the "Digitise the core" and "New digital growth" blocks

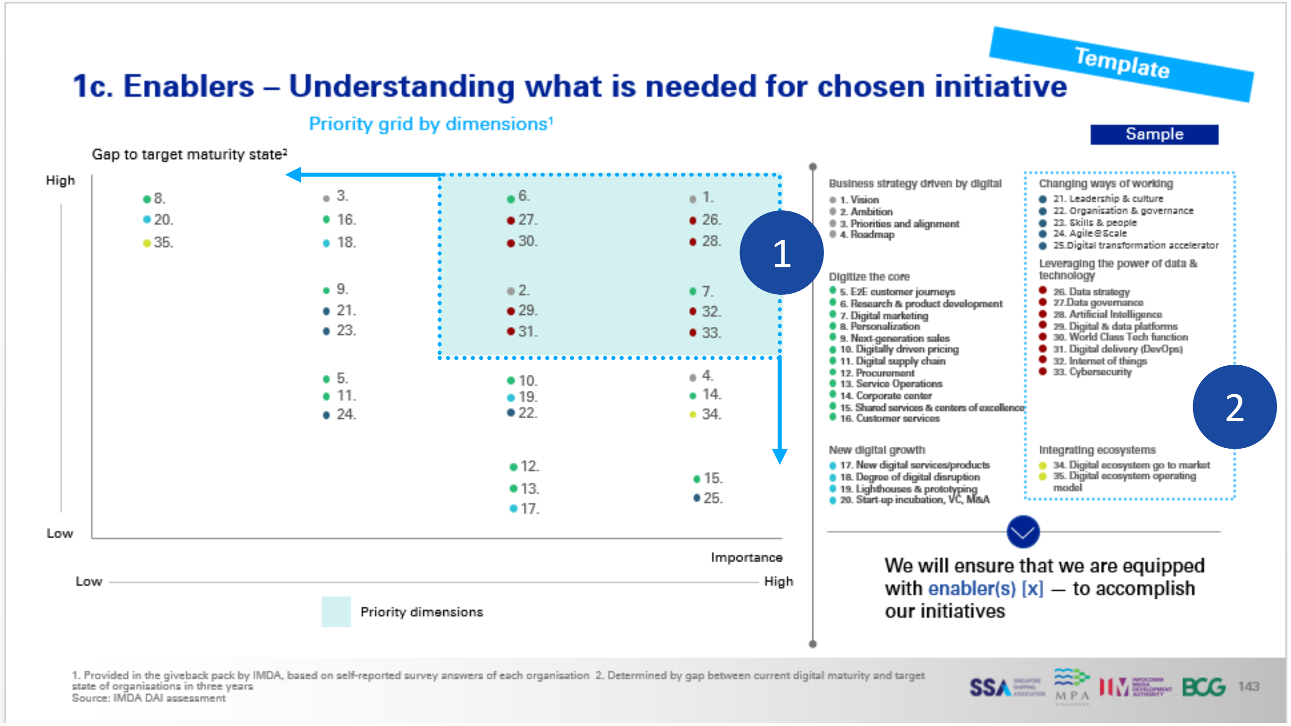
Use the dimensions as guidance on what initiatives to embark on; it should ideally match with your organisation's overall vision

If you do not have the individualised priority grid, you can refer to slides 9 and 10 (of the main MDP publication) for the sector priority grids and Annex 1 for the subsector priority grids

1. Provided in the giveback pack by IMDA, based on self-reported survey answers of each organisation
Source: IMDA DAI assessment

1c. Enablers – Understanding what is needed for chosen initiative

Use the priority grid to identify "How" dimensions to focus on to support the initiative



1. Focus on dimensions in the blue-shaded quadrant (You can expand further from the quadrant if required)

2. Determine which dimensions belongs to the "Changing ways of working", "Leveraging the power of data & technology" and "Integrating ecosystems" blocks

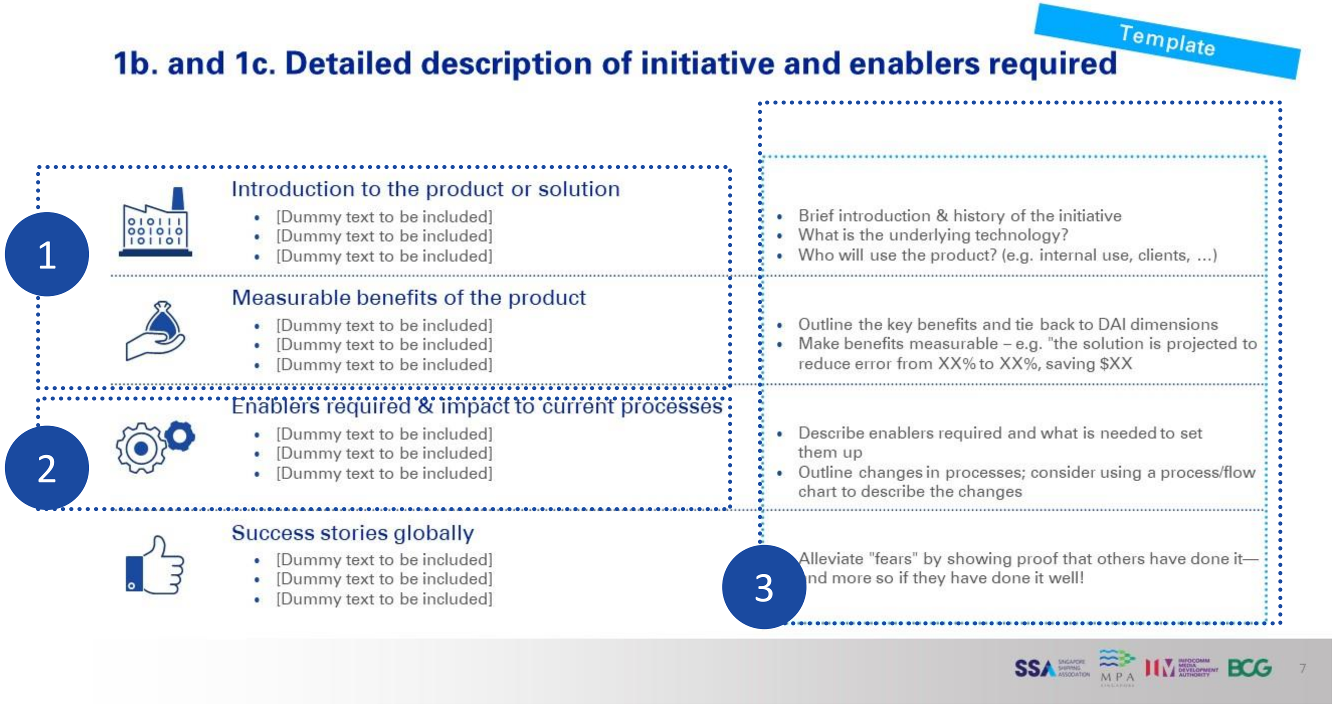
Use the dimensions as guidance on what enablers to improve on; it should complement the initiatives you are proposing to embark on

If you do not have the individualised priority grid, you can refer to slides 9 and 10 (of the main MDP publication) for the sector priority grids and Annex 1 for the subsector priority grids

1. Provided in the giveback pack by IMDA, based on self-reported survey answers of each organisation
Source: IMDA DAI assessment

1b. and 1c. Detailed description of initiative and enablers required

Provide more details of the initiative, its benefits, enablers and success stories of similar initiatives

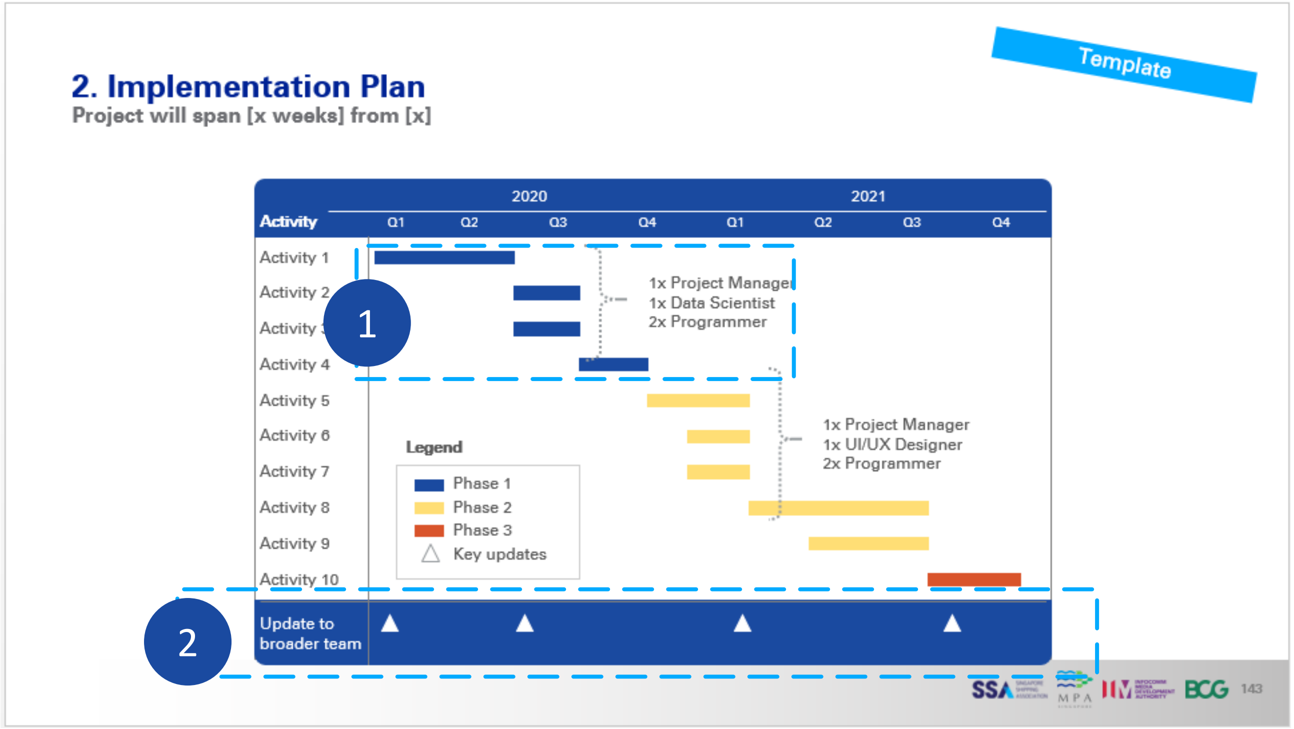


1. Detail the initiative(s) and the benefits they will provide
2. Take note of the enablers identified and how they will spur on the initiative(s)
3. Refer to the sample text as an inspiration for the details to include

Instructions

2. Implementation Plan

Plan for a realistic timeline and update it based on progress



1 Detail the time and resources required for each phase of the initiative(s) (you can use the Gantt chart on the left, or any other method, to track progress)

2 Keep your broader organisation updated on the progress – they may have ideas and offer support for the project

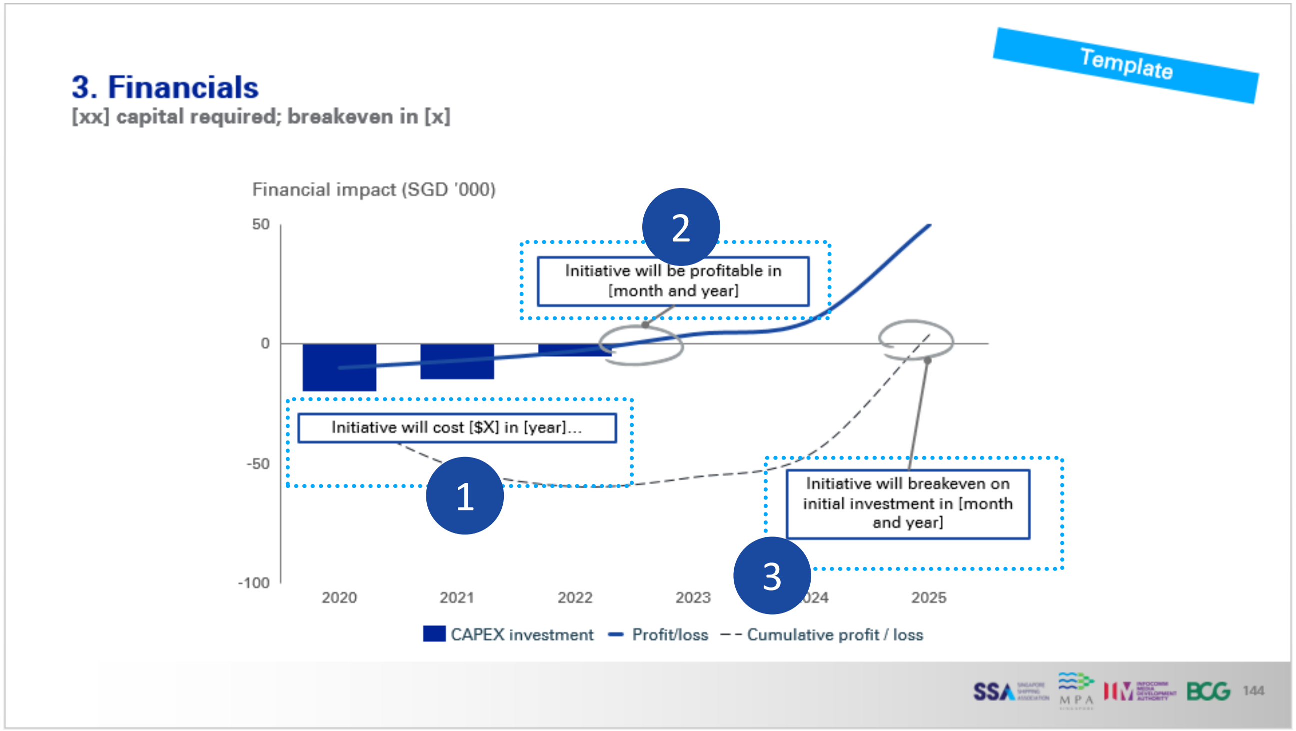
Additionally,

Do not get bogged down in "finalizing" every requirement – oftentimes, timelines will evolve as the solution materializes

Instructions

3. Financials

Start monitoring key financial metrics for performance tracking purposes



1. Estimate the amount of CAPEX investments at various stages of the initiative(s). Assess if these investments are reasonable, given your organisation's current financials

2. Determine when the initiative(s) will be profitable on its own (when revenue it contributes is higher than its operating costs). If the initiative is not revenue-generating, consider quantifying the benefits it would bring from a cost/productivity standpoint

3. Project when the initiative(s) will breakeven (when the benefits derived are greater than the initial CAPEX investments)

Instructions

4. Risks and mitigants

Identify the risks involved with the initiative(s) and possible mitigation measures

1. Determine the categories of risk your initiative(s) might involve (the provided list is non-exhaustive)
2. For each category of risk, assess each risk factor based on their severity and likelihood
3. Determine the appropriate mitigant required for the respective risk factors, given their severity and likelihood

Instructions

5. Immediate actions required

Determine what is needed to start immediately, and what would require external support

Template

5. Immediate actions required

Potential categories to consider:

Procurement	• Shortlist and select vendors (and if applicable, issue RfPs[1], RfQs[1], etc.) • Finalize commercial/technical discussions with said vendors
Funding	• Identify funding support channels and submit funding applications • Engage financial institutions (e.g. bank) to obtain funding • Plan with internal teams to draw down organisation funds
Engagement	• Socialize and seek support from relevant teams within organisation • If applicable, seek regulatory guidance from MPA
Advisory and Project Management	• Seek advisory or consultancy services • Seek project management support • If applicable, seek mentorship through an accelerator (e.g. PIER71)
Product Development and Research	• Conduct customer interviews to validate pain points • Refine product specifications through market testing

1.Request for Proposals 2. Request for Quotations

1. Determine next steps, resources required and external support needed
2. For areas requiring external support, refer to slide 33 (of main MDP publication) for a list of resources by categories

A4) Digital Transformation Proposal Template

A template for you to pitch your digitalisation initiatives.

The .PPT template can be downloaded here.

Template

0. Executive summary

1	Highlight (or recap) company vision and target	"We are seeking [x]'s approval for [S$x] across [x months/years] to implement [x] …"
2	Outline areas of focus, supported by DAI self-assessment	"The key reason for driving this project is [x]; this is in line with the findings in DAI 2020"
3	Summarise the initiatives and their respective benefits	"Fundamentally, the product is a [x], which operationally upgrades our processes via [x]"
4	Summarise the enablers required and how to build them	"This project will require [x] FTEs across a period of [x months/years], across [x phases]"
5	Reiterate the key financial metrics	"The full capital outlay is [S$x]. We project a full realization of our investments by year [20xx]"
6	Highlight key risks and mitigating measures in place	"If we do this project, the major risks are [x]. [x] will be put in place to mitigate this risk"
7	Note immediate actions required	"Further to approval, we will engage [x], with the projected slated to start in [x]"

Template

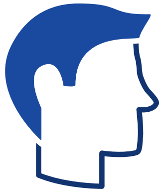
1a. Vision

Powered by digital innovation, [x] will be a leading [x] provider in Singapore, having [x] customers and a profit margin of [x] by [202x]

Template

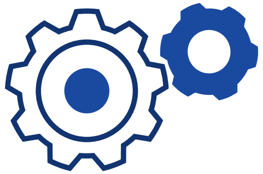
1a. Vision

Potential categories to consider:



Customer needs and pain points

- Are customers asking for this solution?
- Do they face a common issue in current services?
- Is this a complementary solution that could bring new revenues?



Efficiency- or cost-driven needs

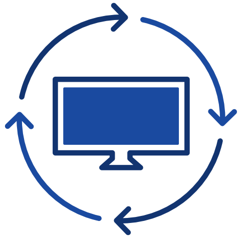
- Could this solution significantly increase productivity (e.g. free up time from laborious processes)?
- Are there clear cost-savings to be derived if this solution is implemented?

Talent and manpower driven

- Will this solution provide a workplace environment that could attract more new talent?
- Could this solution automate a task whereby hiring is challenging?

Regulatory requirements

- Are there new rules that require us to implement this solution (e.g. emissions or cybersecurity regulations)?



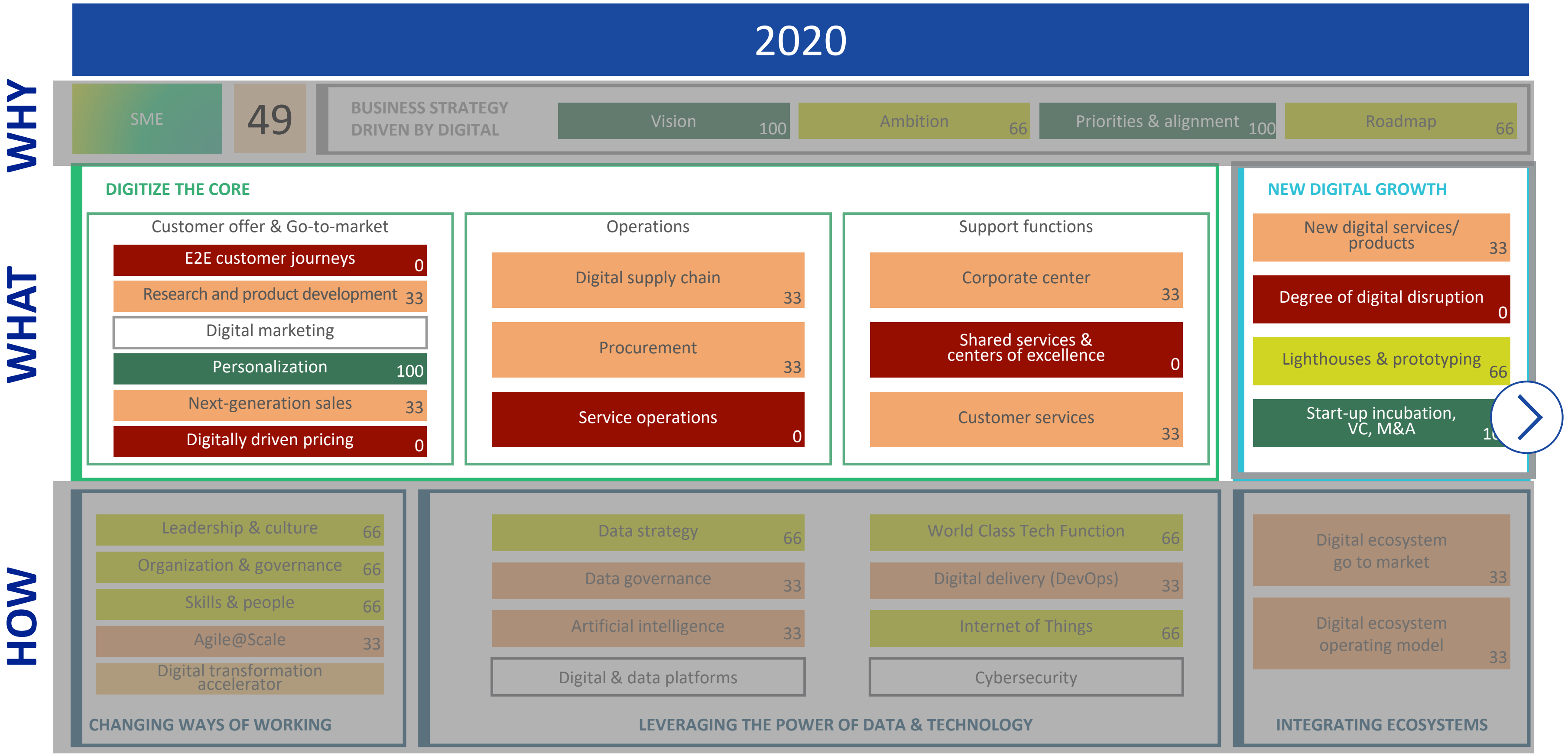
Integration with ecosystem

- Are we able to benefit from the rich port ecosystem by implementing this solution? (e.g. JIT[1], MSW[2], startup ecosystem, etc.)

1. Just-In-Time (JIT); Maritime Single Window (MSW)

Template

1b. Initiatives – Choosing what to start on (1/3)



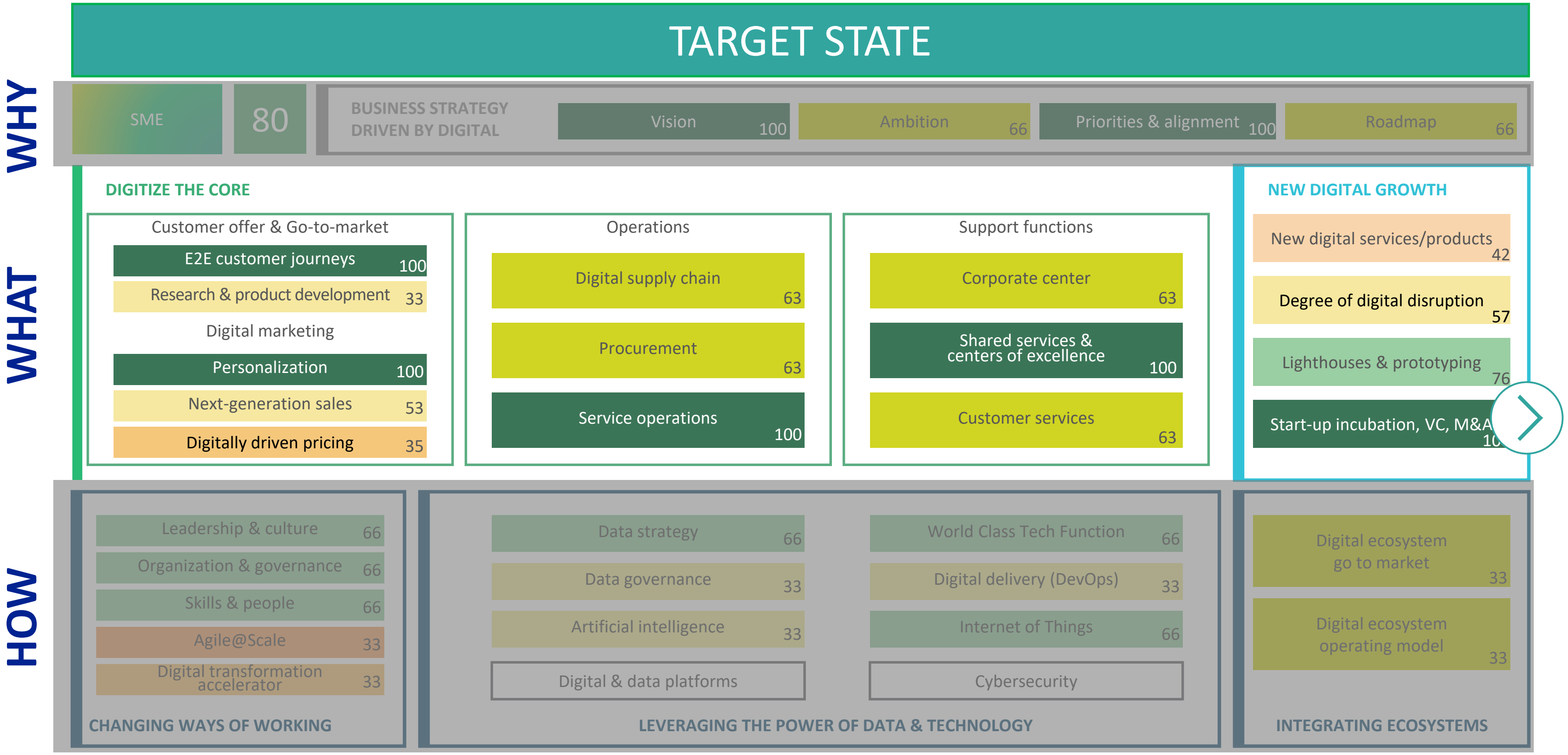
	Digital starter			Digital literate			Digital performer			Digital leader			
DAI	0-8	9-17	18-24	25-33	34-41	42-49	50-57	58-65	66-74	75-82	83-91	92-100	N/A

Dimensions that we are scoring low in currently are

- [Dimension X]
- [Dimension Y]
- [Dimension Z]

Template

1b. Initiatives – Choosing what to start on (2/3)



Dimensions that we are setting a high target for in the next three years are

- [Dimension X]
- [Dimension Y]
- [Dimension Z]

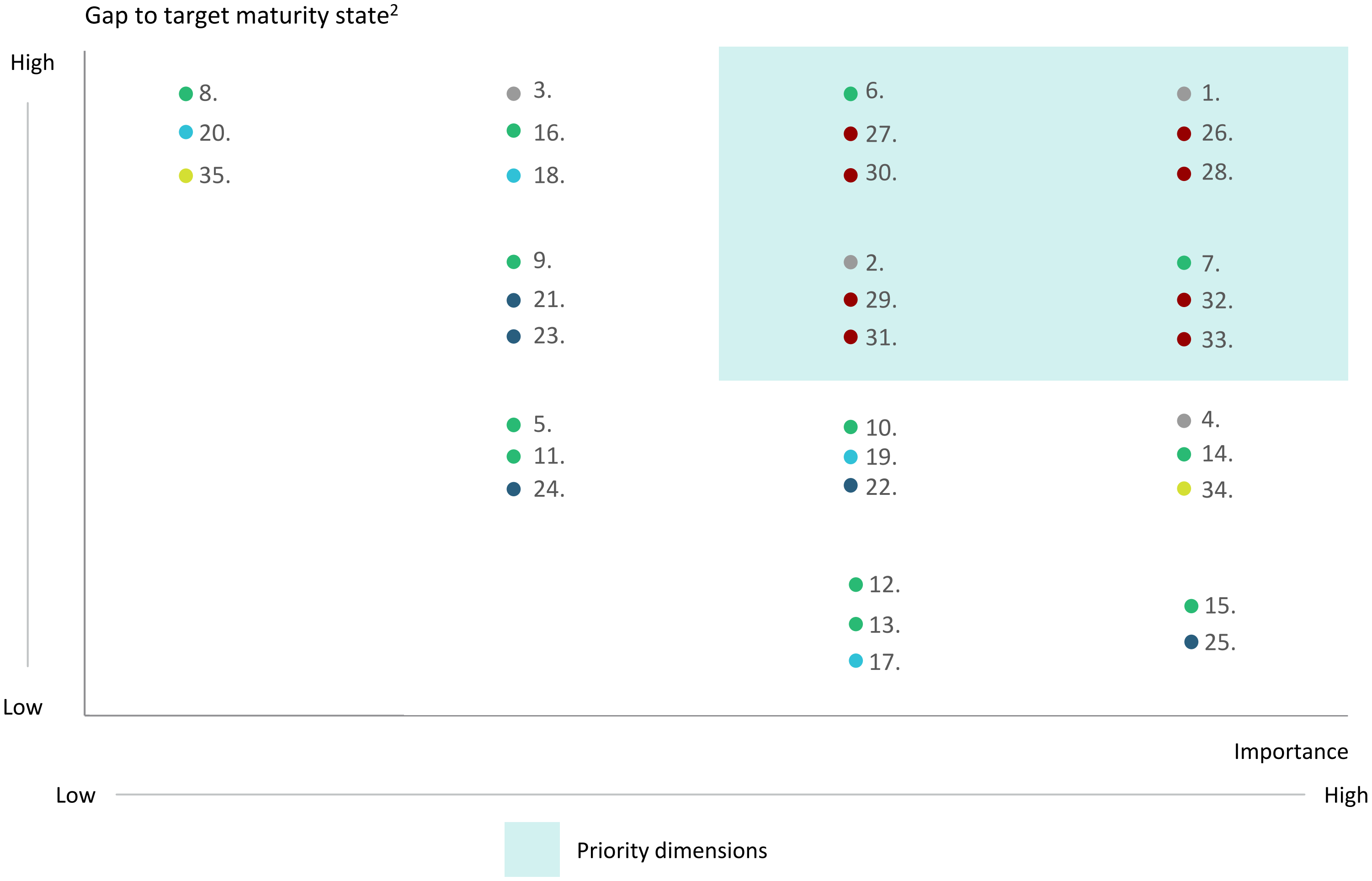
	Digital starter			Digital literate			Digital performer			Digital leader			
DAI	0-8	9-17	18-24	25-33	34-41	42-49	50-57	58-65	66-74	75-82	83-91	92-100	N/A

Template

1b. Initiatives – Choosing what to start on (3/3)

Sample

Priority grid by dimensions[1]



Business strategy driven by digital
- 1. Vision
- 2. Ambition
- 3. Priorities and alignment
- 4. Roadmap

Changing ways of working
- 21. Leadership & culture
- 22. Organization & governance
- 23. Skills & people
- 24. Agile@Scale
- 25.Digital transformation accelerator

Digitize the core
- 5. E2E customer journeys
- 6. Research & product development
- 7. Digital marketing
- 8. Personalization
- 9. Next-generation sales
- 10. Digitally driven pricing
- 11. Digital supply chain
- 12. Procurement
- 13. Service Operations
- 14. Corporate center
- 15. Shared services & centers of excellence
- 16. Customer services

Leveraging the power of data & technology
- 26. Data strategy
- 27.Data governance
- 28. Artificial Intelligence
- 29. Digital & data platforms
- 30. World Class Tech function
- 31. Digital delivery (DevOps)
- 32. Internet of things
- 33. Cybersecurity

New digital growth
- 17. New digital services/products
- 18. Degree of digital disruption
- 19. Lighthouses & prototyping
- 20. Start-up incubation, VC, M&A

Integrating ecosystems
- 34. Digital ecosystem go to market
- 35. Digital ecosystem operating model

In the next [x] years, it is crucial that we focus on [x]—in line with priority dimensions of our DAI diagnosis in the top right quadrant

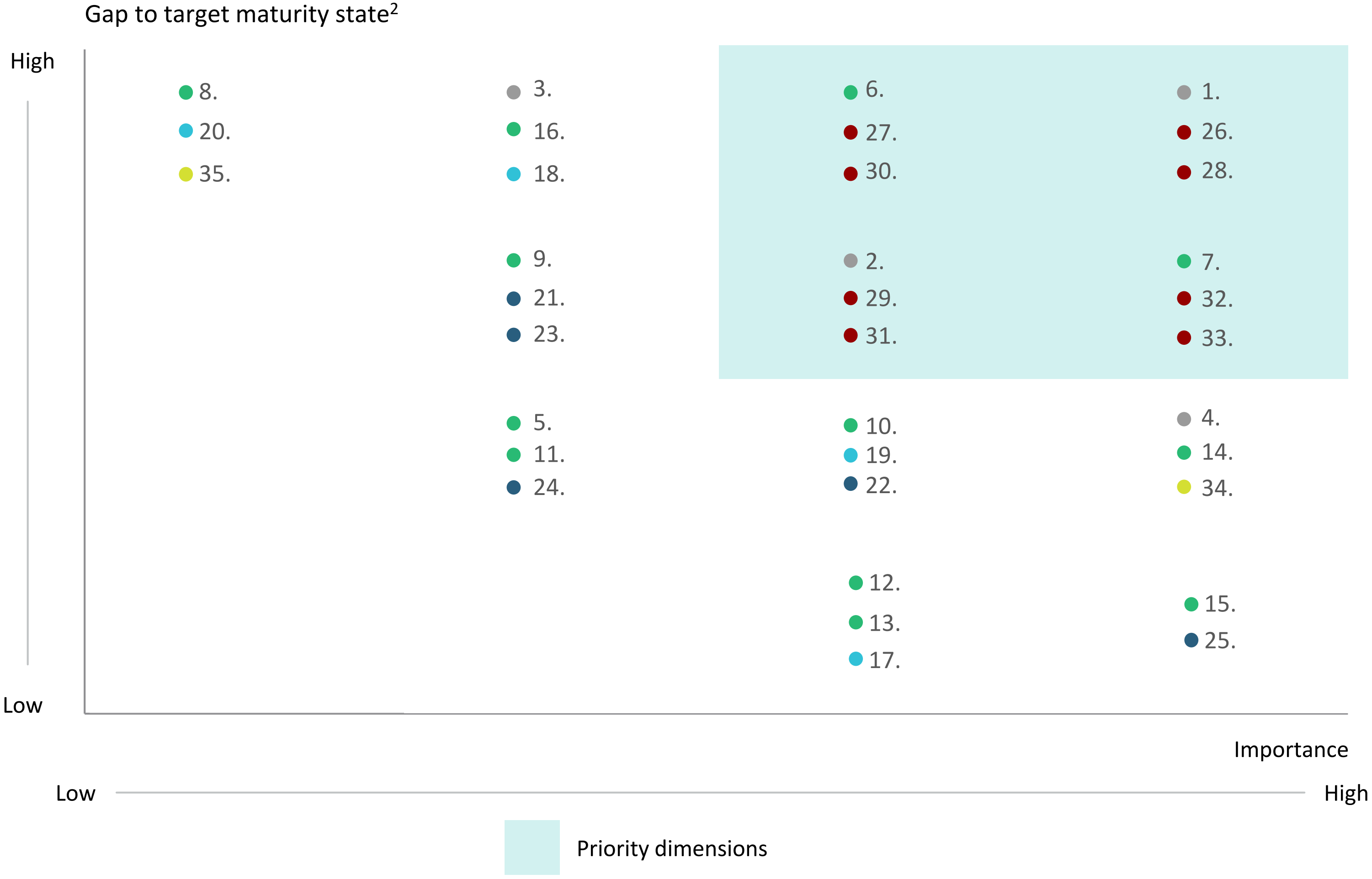
1. Provided in the giveback pack by IMDA, based on self-reported survey answers of each organisation 2. Determined by gap between current digital maturity and target state of organisations in three years
Source: IMDA DAI assessment

1c. Enablers – Understanding what is needed for chosen initiative

Template

Sample

Priority grid by dimensions[1]



Business strategy driven by digital
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Integrating ecosystems
- 34. Digital ecosystem go to market
- 35. Digital ecosystem operating model

We will ensure that we are equipped with enabler(s) [x] — to accomplish our initiatives

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Source: IMDA DAI assessment

Template

1b. and 1c. Detailed description of initiative and enablers required

Introduction to the product or solution

- [Dummy text to be included]
- [Dummy text to be included]
- [Dummy text to be included]

- Brief introduction & history of the initiative
- What is the underlying technology?
- Who will use the product? (e.g. internal use, clients, ...)

Measurable benefits of the product

- [Dummy text to be included]
- [Dummy text to be included]
- [Dummy text to be included]

- Outline the key benefits and tie back to DAI dimensions
- Make benefits measurable – e.g. "the solution is projected to reduce error from XX% to XX%, saving $XX

Enablers required & impact to current processes

- [Dummy text to be included]
- [Dummy text to be included]
- [Dummy text to be included]

- Describe enablers required and what is needed to set them up
- Outline changes in processes; consider using a process/flow chart to describe the changes

Success stories globally

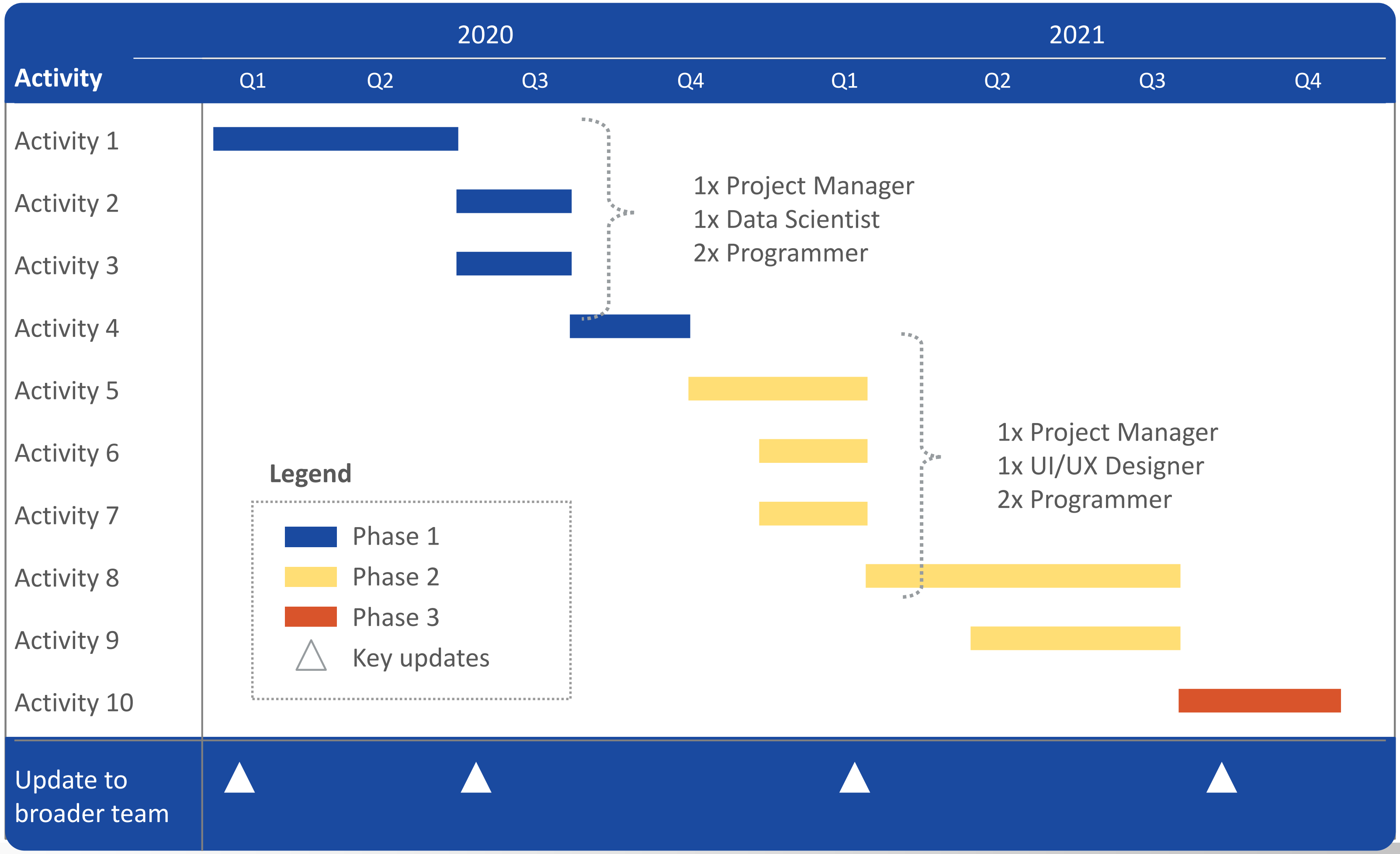
- [Dummy text to be included]
- [Dummy text to be included]
- [Dummy text to be included]

- Alleviate "fears" by showing proof that others have done it— and more so if they have done it well!

Template

2. Implementation Plan

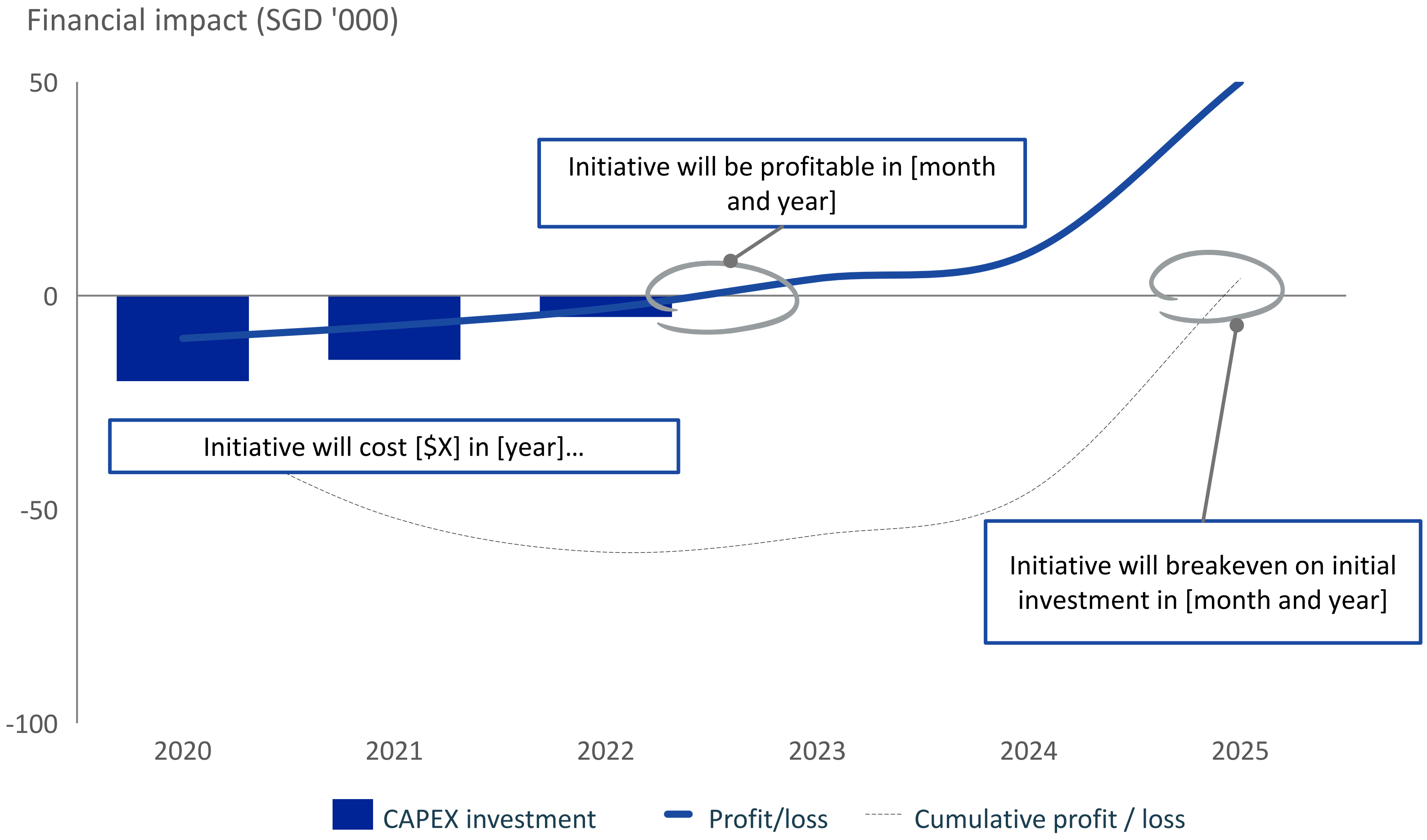
Project will span [x weeks] from [x]



Template

3. Financials

[xx] capital required; breakeven in [x]



Template

4. Risks and mitigants

We recognize the following risks and have developed mitigation plans for them

Potential categories to consider:

Product risk

- Could there be issues of poor adoption, poor quality, late delivery, etc.?
- Can this be mitigated by customer validation, customer testing, phased releases, etc.?

People risk

- Could there be a lack of talent to operate the new software?
- Can this be mitigated by having the internal team work hand-in-hand with vendor, easing change mgmt.?

Operational risk

- Could there be technology/cyber incidents, malfunctions, etc.?
- Can this be mitigated by backup/contingency plans, cybersecurity solutions, etc.?

Market risk

- Could there be an economic downturn, reducing projected gains?
- Can this be mitigated by incorporating the possibility of downturn in financial assumptions?

Reputational risk

- Could there be public backlash in the event of a breach of data?
- Can this be mitigated by an escalation plan / social media response in such events?

Template

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1.Request for Proposals 2. Request for Quotations

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