



Product Platform Rulebook

Assessment

30 March 2023



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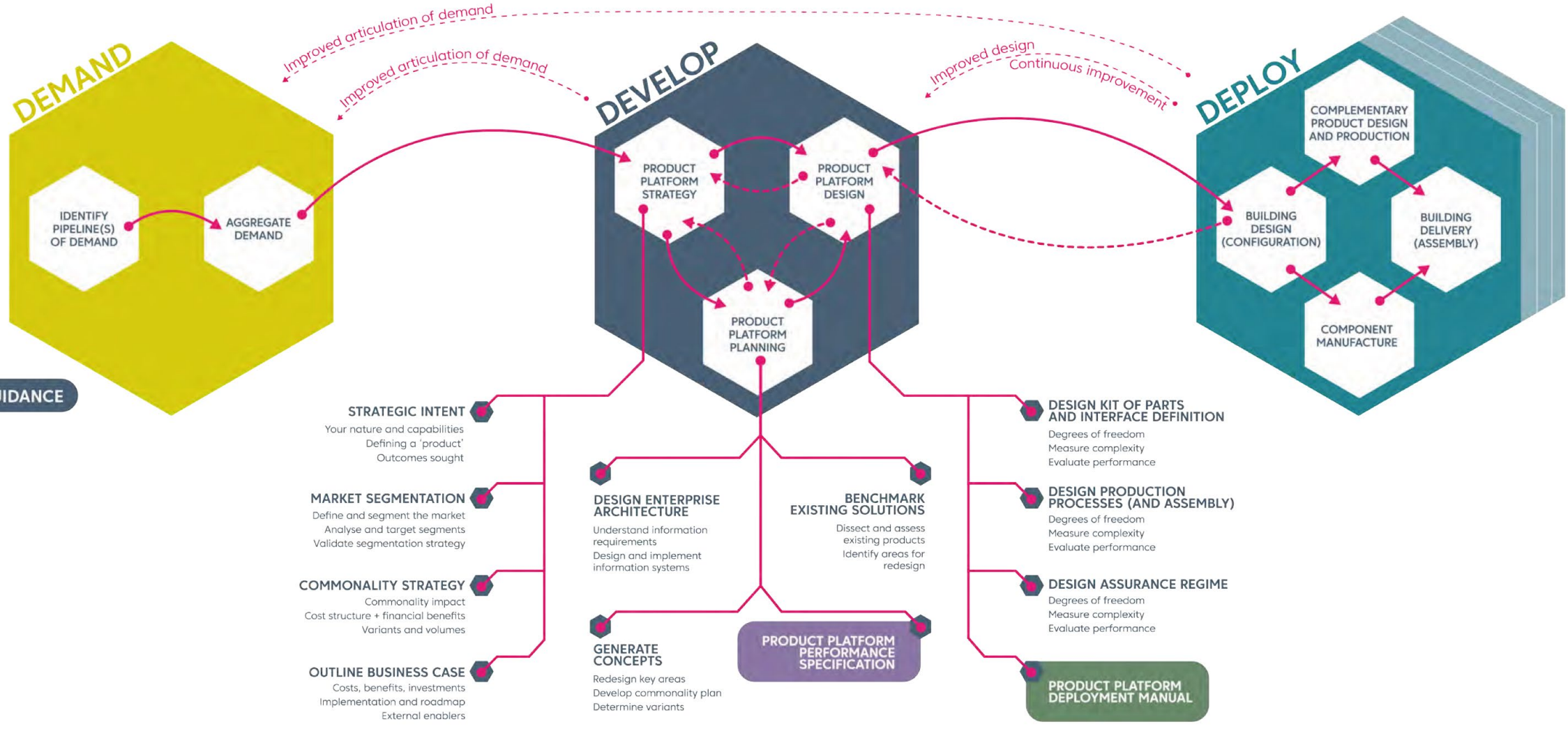
Assessment Introduction

Following the successful launch of the Product Platform Rulebook, the Construction Innovation Hub has developed an assessment to for construction organisations to gather supporting data and information, enabling them to define the maturity of a specific Product Platform, the supporting business case, as well as how a potential solution complies to the 8 Product Platform Rules & Principles.

This assessment aims to enable industry organisations to self-assess how mature their product platform is and guide them through the DEMAND – DEVELOP – DEPLOY Rulebook process.



3. GUIDANCE



Assessment Part 1: Rules & Principles

Is your solution a Product Platform?

Does your solution meet standards of Quality, Structured Information and the Circular Economy?

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Assessment Part 1: Product Platform Rules & Principles

Part 1 of the Product Platform Rulebook assessment aims to qualify if a solution meets the 8 Rules and Principles as defined in the Hub Product Platform Rulebook.

Following this assessment, the user should be enabled with evidence of where a solution meets the Rules and Principles and identify gaps to be addressed through further development on their Product Platform journey.

For each of the 8 Rules and Principles, the evidence statements are split into fundamental characteristics and desirable characteristics.



THE RULES & PRINCIPLES



1. DEPLOYABLE



2. CONFIGURABLE



3. COMMON REPEATABLE ELEMENTS



4. INTERFACES



5. OPEN

THE RULES



6. QUALITY

THE PRINCIPLES



7. STRUCTURED INFORMATION



8. CIRCULAR

Assessment Part 1: Product Platform Rules & Principles

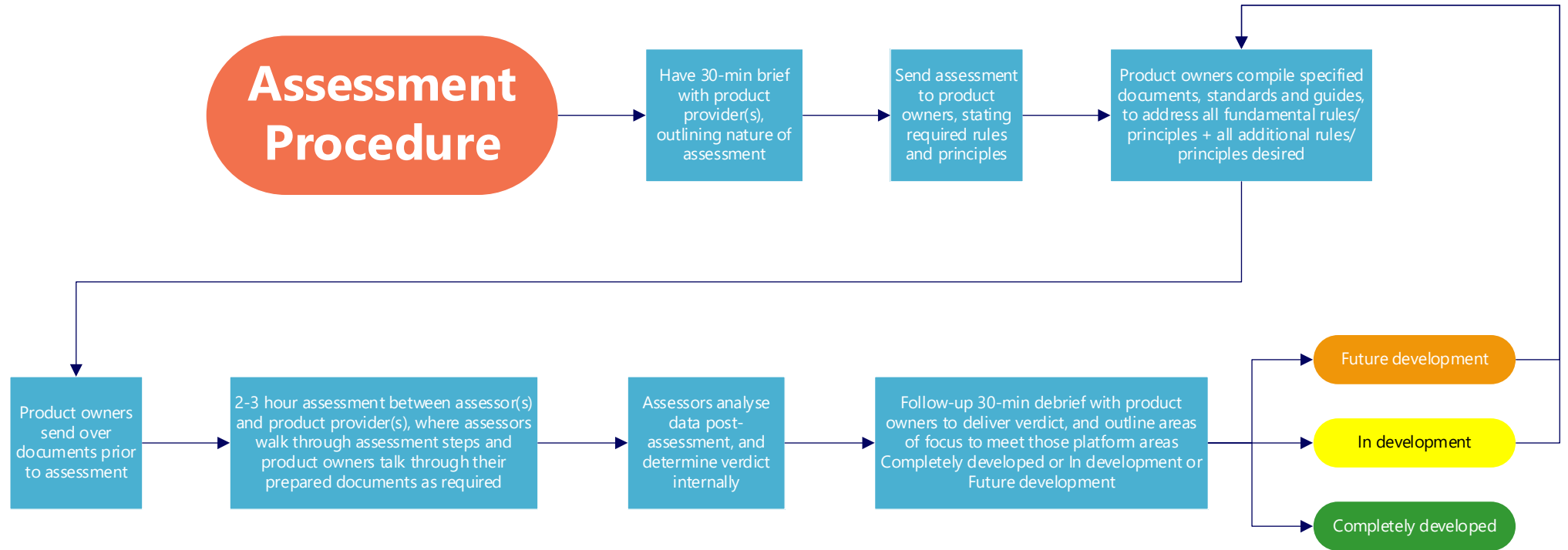
Purpose

- To enable organisations to assess where they are on their Product Platform journey.
- To have a uniform approach for projects to be evaluated against the Rulebook Rules without subjective bias.
- To encourage an organisation to accumulate data and information for supporting their classification of a given level.
- To enable organisations aiming to develop a construction product platform with the right supporting information to highlight to their customers and project stakeholders

Methodology

- Rules 1, 2, 3, 4 and 5 are fundamental product platform rules.
- Principles 6, 7 & 8 laid out in the Rulebook define whether a solution is best practice product platform.
- The 8 Product Platform Rules and Principles are mandatory to be a of the standard that the Hub advocates for.
- The Rulebook Rules and Principles have been broken down into sub-rules.
- Each sub-rule was assigned as either a fundamental or a desirable characteristic.
- To adhere to a rule and principle, a solution is required to adhere to all of its fundamental characteristic.
- Supporting information is stated or referenced in accordance with the suggested format(s).
- It isn't required to meet any desirable characteristics, but doing so demonstrates a more well-rounded solution.

Assessment Part 1: Product Platform Rules & Principles





1. Deployable

Fundamental Characteristics

Question	Question Guidance	Supporting Information
Can the product be deployed across multiple assets?	The Product Platform is shown to be used on a number of different projects	Multiple project briefs (identical or not) Construction Product information
Can the Product be deployed across non-identical assets?	The Product Platform is shown to be used on a number of different projects with divergent requirements (e.g. schools have different specifications to prisons)	Multiple non-identical project briefs Construction Product information



2. Configurable

Fundamental Characteristics

Question	Question Guidance	Supporting Information
Can the Product be configured to suit individual customer requirements ?	Product Platform Provider has a core asset, which can have flexible peripherals that allow reconfiguration to meet customer requirements	Design guide (+ configuration instructions) Construction project applications



3. COMMON REPEATABLE ELEMENTS

3. Common Repeatable Elements

Fundamental Characteristics

Question	Question Guidance	Supporting Information
Does the Product incorporate a common, repeatable kit-of-parts ?	The Product Platform has a set of pre-engineered physical assets that are used to design a variety of assemblies which define part or all of a finished building	Design guide Datasheet
Does the Product incorporate a common, repeatable production process ?	Product Platform Provider utilises a standardised and repeatable process that enables production of product families	Process specification e.g. process flow chart via a CPQP Value stream map
Does the Product incorporate common, repeatable knowledge ?	Product Platform Provider has demonstrated all of the following: Market and customer insight, operating procedures, Intellectual Property, methods and skills needed Thought leaders (informed opinion leaders within organisation, the go-to people in their field of expertise) Product leaders (the bridge between marketing, product experts and development)	Framework for capturing key knowledge (QMS, company wiki, toolsets)
Does the Product incorporate common, repeatable people and relationships ?	Product Platform Provider has individuals and authorities, with the environment and incentives for those people May extend to contractual relationships between organisations	Stakeholder map

Desirable Characteristics

Question	Question Guidance	Supporting Information
Incorporate a disaggregated supply chain ?	Product platforms should facilitate convergence to a consistent approach to structured information, enabling interoperability across the supply chain.	Supplier network strategy



4. INTERFACES

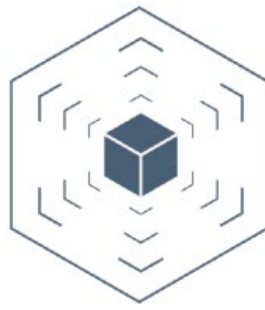
4. Interfaces

Fundamental Characteristics

Question	Question Guidance	Supporting Information
Does the Product have defined interfaces ?	The Product Platform Provider should work to identify standard interfaces which can be used across the industry and promote interchangeability of elements.	Design guide
Can the interfaces be made available to the designers and suppliers of peripheral or complementary products?	The Product Platform can be reliably integrated with other parts of a building, without being wholly dependent on the Product Platform Provider.	Design guide Design data (CAD)

Desirable Characteristics

Question	Question Guidance	Supporting Information
Can be reliably integrated without being wholly dependent on a Platform provider ?	The Product Platform should be able to be reliably integrated with other parts of a building without being wholly dependent on the platform provider.	Design guide
Has standard interfaces across industry ?	Product Platform Provider should be compatible with external elements from industry suppliers.	Design guide
Promotes interchangeability of elements?	Product platforms should ensure interchangeability and fungibility of elements (products; processes; skills and capabilities; and organisations)	Design guide



5. Open

Fundamental Characteristics

Question	Question Guidance	Supporting Information
Is there intention to make this an open product platform?	An open Product Platform would enable any party to make, use and buy the common repeatable elements for legitimate purposes	Mission statement
Does the Product enable any parties to make its common repeatable elements ?	Open Product Platforms should reduce barriers to adoption through open, performance-based production requirements and skills	Method of manufacture BIM Object
Does the Product enable any parties to use its common repeatable elements ?	Open Product Platforms should reduce barriers to adoption through accessible information and tools	Design guide
Does Product enable any parties to buy its common repeatable elements ?	Open Product Platforms should reduce barriers to adoption through commercially available products	Route-to-market strategy

Desirable Characteristics

Question	Question Guidance	Supporting Information
Does the solution enable others to develop complementary products for it?	Open Product Platforms should provide an open foundation for compatible products. A stable architecture with open interfaces will best complement external products	Design guide Methods of manufacture & assembly
Does the solution enable others to develop complementary services for it?	Open Product Platforms should provide an open foundation for compatible products. A stable architecture with open interfaces will best complement external services	Design guide
Does the solution enables others to develop complementary technologies for it?	Open Product Platforms should provide an open foundation for compatible products. A stable architecture with open interfaces will best complement external technologies	Design guide



6. Quality

Fundamental Characteristics

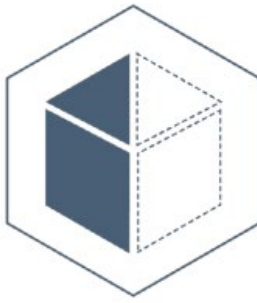
Question	Question Guidance	Supporting Information
Does the product have a minimum level of quality defined?	The Product Platform Provider should facilitate an improved quality standard - to develop and produce product platforms that will correspond to the requirements and to the assumptions made in project designs, appropriate quality management measures should be in place	Quality KPIs
Does the product have procedures in place that can be used consistently to ensure that materials are fit for their intended purpose ?	The Product Platform Provider declares requirements, specifications, guidelines and/or characteristics to ensure materials, products, processes and services are all fit for their intended purpose	QMS QA/QC Audit Certificates
Does the product have measures to define reliability requirements?	The Product Platform Provider can prevent deterioration over the design working life to not impair the performance of the product below that intended	Construction Product Quality Planning (CPQP) framework
Does the product follow a defined quality assurance framework ?	The Product Platform Provider should have controls at the stages of design, execution, use, maintenance and, where appropriate, end of life	Construction Product Quality Planning (CPQP) framework



6. Quality

Desirable Characteristics

Question	Question Guidance	Supporting Information
Does the Product Platform Provider have defined organisational measures?	The Product Platform Provider should facilitate an improved quality standard - to develop and produce product platforms that will correspond to the requirements and to the assumptions made in project designs, appropriate quality management measures should be in place	Business KPIs
Does the Product Platform have measures to define controls at all stages of Product Life Cycle ?	The Product Platform Provider should facilitate an improved quality standard - to develop and produce product platforms that will correspond to the requirements and to the assumptions made in project designs, appropriate quality management measures should be in place	Product lifecycle management (PLM) system and/or document
Does the Product Platform have measures to define designed working life, with time-dependent performance criteria?	Product Platform Provider should have a specified working life, in which time deterioration does not impair the performance of the product	Maintenance schedule
Does the Product Platform have measures in regard to its anticipated level of maintenance ?	Product Platform Provider has due regard to its environment and anticipated level of maintenance	Maintenance schedule



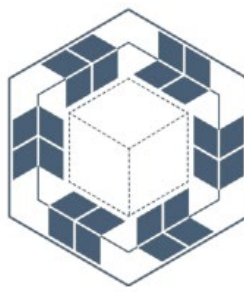
7. Structured Information

Fundamental Characteristics

Question	Question Guidance	Supporting Information
Does the product have a structured approach to product information?	The Product Platform Provider enables those in the product domain to feed in their information seamlessly	Product technical information documents BIM
Does the product have a structured approach to deployment information?	The Product Platform Provider enables those in the project domain to correctly evaluate, configure and deploy platforms	Deployment manual
Does the product have a structured approach to organisational information?	The Product Platform Provider enables those in the client domain to make an informed choice about the use of the platform and how it will impact on strategic outcomes	Strategy statements ISO 19650 accreditation

Desirable Characteristics

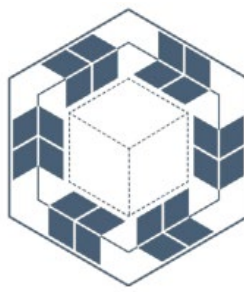
Question	Question Guidance	Supporting Information
Does the product have a structured workflow with clear roles and responsibilities ? E.g. commercial, legal, secure, digital etc	The product platform should promote interoperability on a technical, legal, semantic and organisational level	Value stream map with stakeholders



8. Circular

Fundamental Characteristics

Question	Question Guidance	Supporting Information
Does the product enable circularity for components beyond their first intended deployment ?	Product Platforms and complementary elements should be provided with all necessary instructions for cycling at end of use, accessible to subsequent owners of the asset	Lifecycle analysis (LCA)
Does the product enable disassembly , with detailed information on deconstruction procedure?	Product Platforms and complementary elements should be designed to be easy to separate, without destruction of components	Design for Deconstruction (DfD) checklist Method of disassembly
Does the product enable repair , with detailed information on maintenance procedure?	Product Platforms and complementary elements should be provided with all necessary instructions for maintenance in-use	Design for Deconstruction (DfD) checklist Method of disassembly Maintenance record / schedule
Does the product enable reuse , with detailed information on recovery procedure?	Product Platforms and complementary elements should be provided with all necessary instructions for cycling at end of use, and made available to subsequent owners of the asset	Design for Deconstruction (DfD) checklist Method of disassembly List of recoverable assets/products Cradle to Cradle certification (in Materials Reutilisation and/or Product Circularity)



8. Circular

Desirable Characteristics

Question	Question Guidance	Supporting Information
Does the product enable circularity for sub-assemblies beyond their first intended deployment ?	Product Platform Provider should have element specifications covering reuse potential and connections	Design for Deconstruction (DfD) checklist Method of disassembly List of recoverable assets/products
Does the product Incorporate design for separation, without deconstruction of components?	Product Platform Provider should have element specifications covering accessibility and deconstruction processes	Method of disassembly
Does the product have a Lifecycle Analysis , including modelling and analysis of renewable energy technologies?	Product Platform Provider has an obligation to utilise renewable building materials. Energy should also be sourced from sustainable solutions, whilst promoting energy efficient principles	Life cycle analysis (LCA)
Does the product have environmental product declarations (EPDs)?	Product Platform Provider should show proof of leasing products as a service, as well as proof of purchase of refurbished or remanufactured products	Public Type III EPD certificate

Assessment Part 1: Product Platform Rules & Principles Scorecard

Once all of the supporting information has been gathered, it is recommended that a scoring exercise is applied to tally up and assess the maturity of the Construction Product Platform.

Rules & Principles	Fundamental characteristics		Desirable characteristics	
	Total	Score	Total	Score
Deployable	2		0	
Configurable	1		0	
Common repeatable elements	4		1	
Interfaces	2		3	
Quality	4		4	
Structured information	3		1	
Circular	4		4	
Open	4		3	
Total	24	0	16	0

Assessment Part 2: DEMAND - DEVELOP - DEPLOY

Do you understand what your demand profile is? Have you developed a Product Platform Strategy? Do you know how your Product Platform will be deployed on projects?

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Assessment Part 2: DEMAND – DEVELOP - DEPLOY

Part 2 of the Product Platform Rulebook assessment includes 50 questions that can be aimed at different stakeholders involved in the development / adoption of a Construction Product Platform. For example, this can be a Product Platform Provider Client seeking to be heavily involved in the use of a Product Platform on a project.

The 50 questions condenses the full Product Platform Rulebook guidance into a format where each step is broken down into a key piece of data or information.

The outcome of this part of the assessment aims to steer developers and adopters of Product Platforms to follow the Rulebook Process: **DEMAND – DEVELOP - DEPLOY.**



DEMAND

Process Step	ID	Questions	Example Data and Information
IDENTIFY PIPELINE (S) OF DEMAND	1	Do you understand what the DEMAND profile is for the Product Platform?	IPA Published Pipelines, Internal Business Management Data
	2	Have you evaluated this profile?	Data Analysis e.g. graphs, charts, statistics
	3	What sources of information have been used?	List of sources
	4	Has data analysis been conducted assigning quality and accuracy, per stakeholders?	Stakeholder and data source analysis
AGGREGATE DEMAND	5	Have you aggregated demand for the PP?	Database showing aggregation of datasets into a forecast for set number of years
	6	Have you analysed this demand profile? e.g. levels of commonality	Database / data analysis shows degree of commonality
	7	Has the commonality, quality and accuracy been assessed across the data profile?	Stakeholder and data source analysis
	8	How did they select the most suitable customer or set of clients?	Market analysis
	9	How did they aggregate pipeline into 1 dataset?	Data analysis methodology
	10	How does the PPP feed this information into their core business processes?	Customer Relationship Management (CRM) Process Flow
	11	Including cascade of pipeline data to departments e.g. planners	Internal Business Process Flow

DEVELOP

Process Step	ID	Questions	Example Data and Information
PRODUCT PLATFORM STRATEGY STRATEGIC INTENT	12	Have you supported the development of a PP? If so, how?	R&D project information, project bids,
	13	What is the nature of your business?	Company mission statement
	14	What is your businesses core capabilities?	Company mission statement
	15	What is your businesses USP?	Company mission statement
	16	Do you know your business' definition of a 'product' in relation to the output of the proposed product platform?	Product Design Specification (PDS), Product Platform Business Case
	17	Do you have a Product Breakdown Structure, Design Structure Matrix or Building Design Hierarchy?	As described in question
	18	Have you determined the potential Product Model?	Business case for the model and organisation model supporting the product
	19	Does your organisation support use of BIM object libraries?	BIM workflows, BIM accredited
	20	Has your business considered how key Benefit Metrics a product platform could deliver?	KPIs e.g. Delivery improvement, productivity % improvement, carbon reduction plan
	21	(Value Profile) Have you considered which Value Categories the product will focus on?	Target Value Profile defined

DEVELOP

Process Step	ID	Questions	Example Data and Information
PRODUCT PLATFORM STRATEGY	22	Have you completed a market segmentation exercise?	Market segmentation grid
	23	Do you have list of key markets you operate within?	Market analysis, market SWOT
MARKET SEGMENTATION	24	Have you ranked or rationalised subsectors based on your business current market presence or access?	Market analysis, market SWOT
	25	Have you analysed target market segments?	Market analysis, market SWOT
PRODUCT PLATFORM STRATEGY VALIDATE SEGMENTATION STRATEGY	26	Have you validated your market segment strategy?	Commonality Vs variability analysis, market analysis, market SWOT
	27	Have you considered how many segments can realistically be served in terms of the capability and capacity? (Production)	Supply Chain Readiness Analysis (SCRA), capacity analysis, supply chain map
	28	Have you considered the trade-off between commonality and variability?	Commonality Vs variability analysis, including trade off and comparison to market segments
	29	Do you fully understand longevity of the target market segment?	Market analysis,
	30	Has a Market SWOT analysis been conducted?	SWOT
	31	Have you considered strategic relationships to Deploy the PP? e.g. Supply Chain or cooperative competitors	Supply chain map, competitor analysis
32	Have you considered if one target segment is sufficient for your Product?	Commonality Vs variability analysis, including trade off and comparison to market segments	

DEVELOP

Process Step	ID	Questions	Example Data and Information
PRODUCT PLATFORM STRATEGY COMMONALITY STRATEGY	33	What commonality does your product leverage?	Specification of the Product Platform Core Asset
	34	Have you defined a commonality strategy?	Risks, aims, costs vs benefits, market entry
PRODUCT PLATFORM STRATEGY DEVELOP OUTLINE BUSINESS CASE	35	What is the business case? (What benefit are they trying to realise?)	Product Platform Business Case
	36	Have they detailed this business case?	Product Platform Business Case
DESIGN ENTERPRISE ARCHITECTURE	37	How have you used Digital Technology?	
BENCHMARK EXISTING SOLUTIONS	38	Have they conducted benchmarking of solutions? (competitor and internal)	Quality Function Deployment
GENERATE CONCEPT(S)	39	How did you generate your concepts?	
DESIGN KIT OF PARTS AND INTERFACE DEFINITION	40	Have they designed a kit of parts?	Product Platform Design Guide
	41	Have they designed and defined interfaces?	Product Platform Design Guide
DESIGN PRODUCTION PROCESSES AND ASSEMBLY	42	Have you defined production processes for your PP?	Method of manufacture, method of assembly
DESIGN ASSURANCE REGIME	43	Do you have a quality process?	Quality assurance / quality control plan, CPQP
PRODUCT PLATFORM DEPLOYMENT MANUAL	44	Do you have a standard processes / approach to design?	Design process flow

DEPLOY

Process Step	ID	Questions	Example Data and Information
BUILDING DESIGN (CONFIGURATION)	45	Have you considered building design for your product platform?	Building configuration design process flow
	46	Do you have a digital configurator for your Product Platform?	
COMPLEMENTARY PRODUCT DESIGN AND PRODUCTION	47	How is your solution interoperable?	Deployment Manual, Design Guide
	48	Have you defined how an adopter of your platform would design using the standard assets?	Deployment Manual, Design Guide
COMPONENT MANUFACTURE	49	Have you defined the Method of Manufacture? (e.g. using a Bill of Materials BOM)	Deployment Manual, Design Guide, BOM, Method of Manufacture
BUILDING DELIVERY (ASSEMBLY)	50	Have you defined the Method of Assembly? (e.g. using a Bill of Materials BOM or Standard Work Instructions)	Deployment Manual, Design Guide, BOM, Method of Assembly

Next Steps

Upon completion of the two parts of this assessment, the Product Platform Provider, adopter or developer will have comprehensive supporting data and information to evaluate the construction solution against the 8 Product Platform Rules and Principles.

Following the DEMAND – DEVELOP – DEPLOY process ensures sufficient supporting information is gathered from the critical phases of pipeline aggregation through to evaluation of the organisations business model to support a Product Platform and finally through the development stage to the method of deployment.

Adopters of this assessment are well positioned to effectively deploy their Product Platform as they emerge as the norm within the construction industry.





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