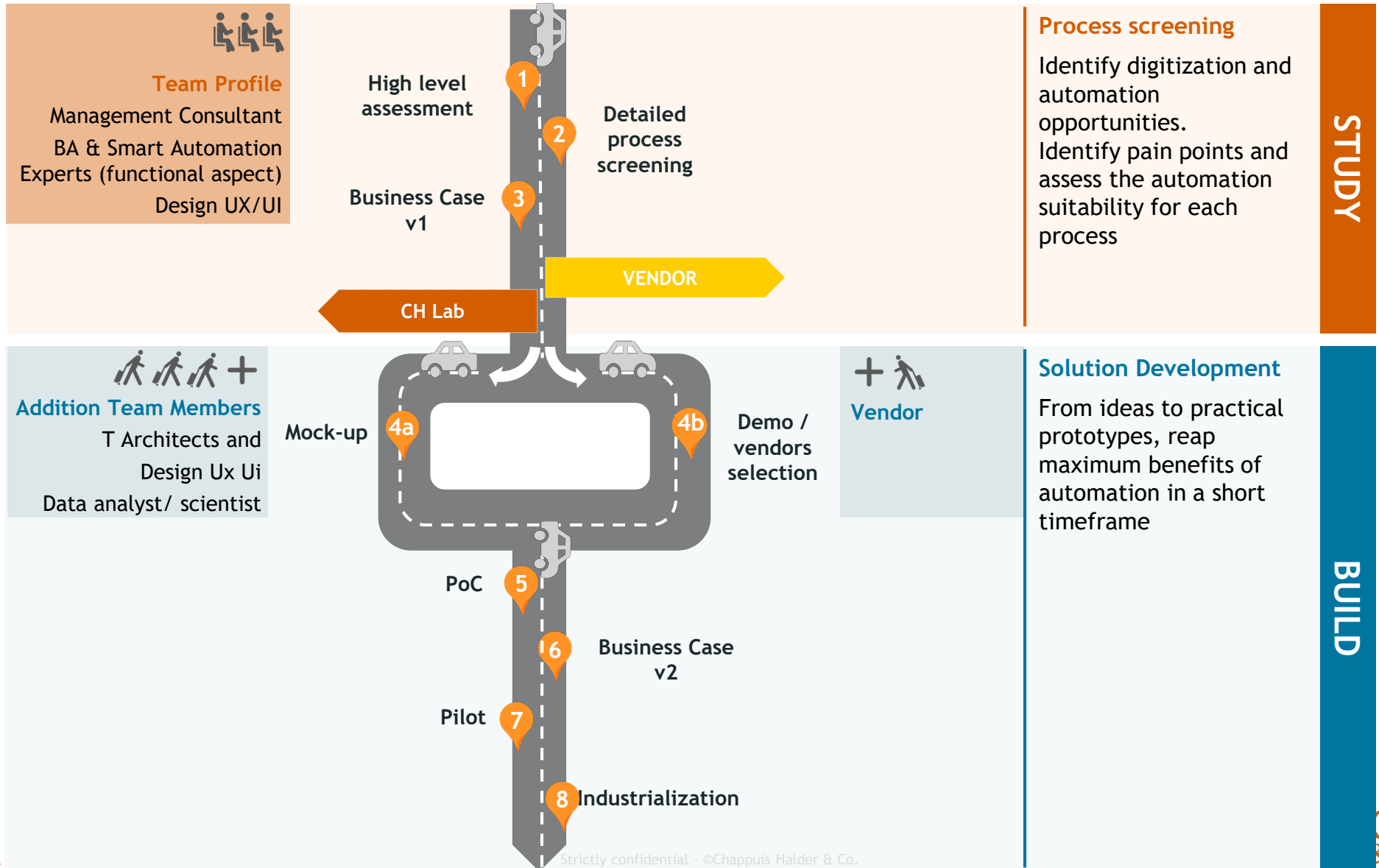


SMART AUTOMATION

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CH
&Co.

We are assisting our clients on the end-to-end project lifecycle, from “Study” to “Build” phases



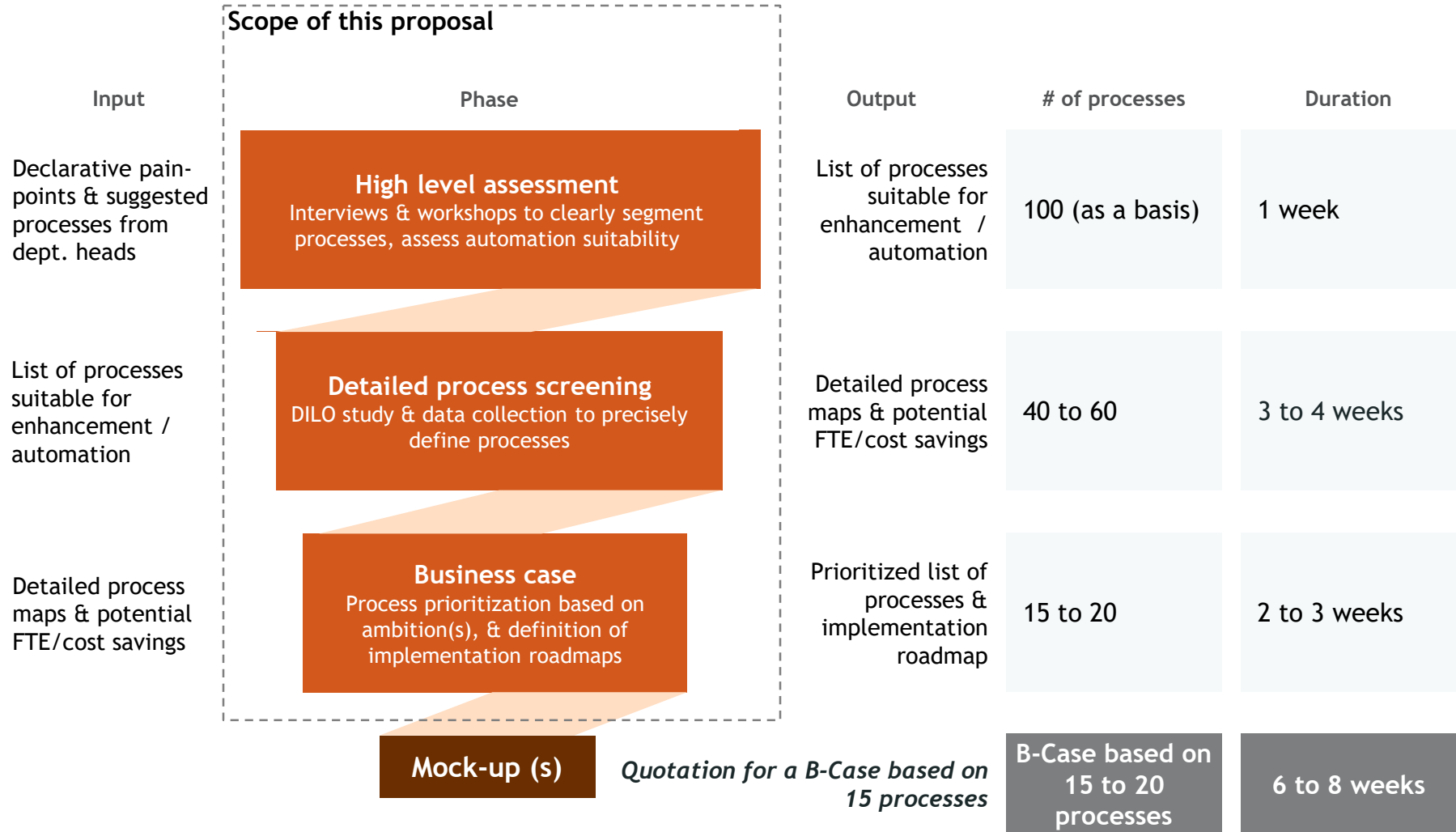
1

STUDY : Process Screening

Our methodology to identify digitization and automation opportunities

Process screening for digital opportunities

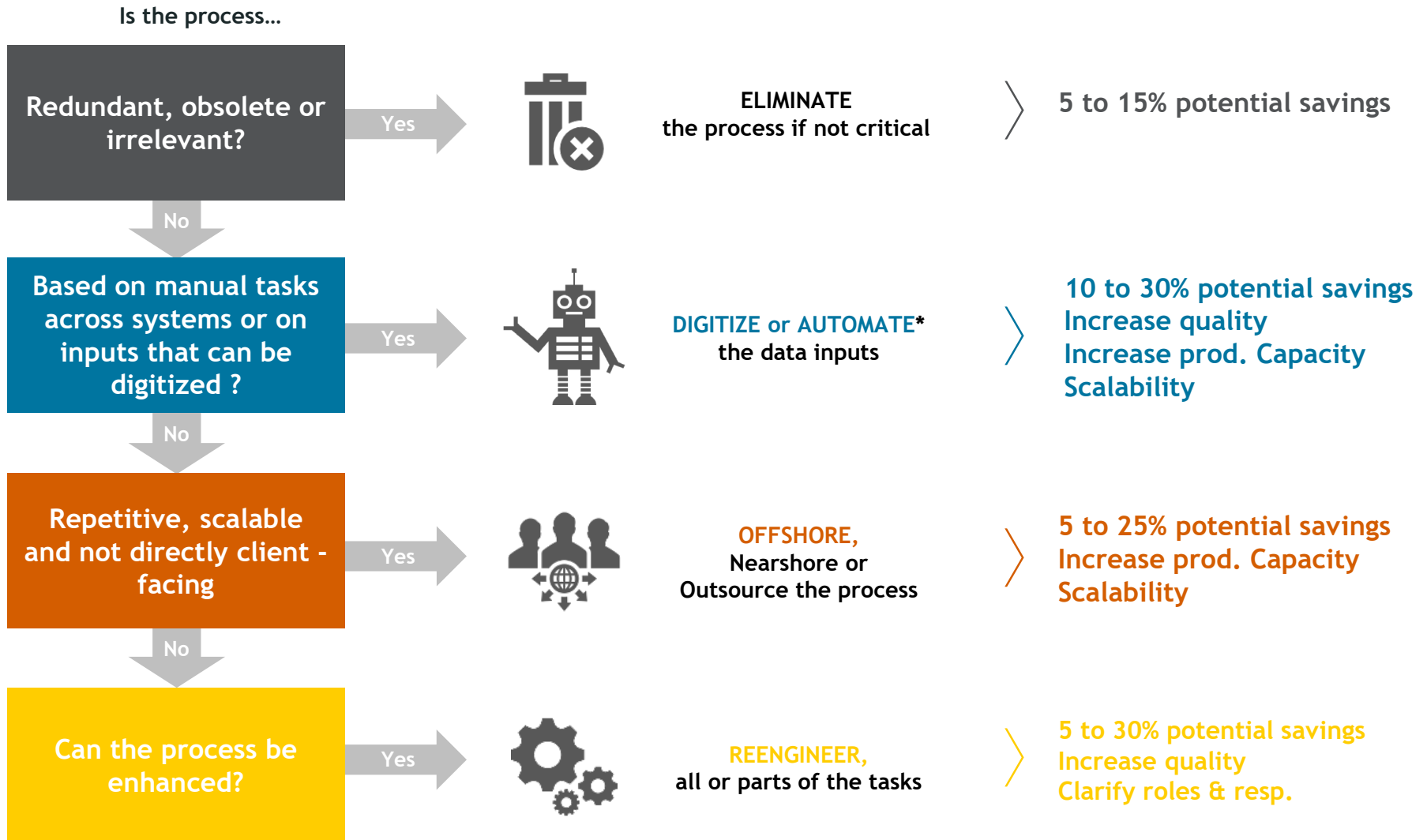
A high level methodology with a clear outline of each phase



*A process here generally refers to a series of 5-10 clearly defined tasks (based on CH&Co's historical data on processes)

Our proposed approach

Simplified decision tree for the process study



* Digitize acquisition of data (e.g. Smart Forms , OCR) has a longer timeframe than automation (e.g. RPA)

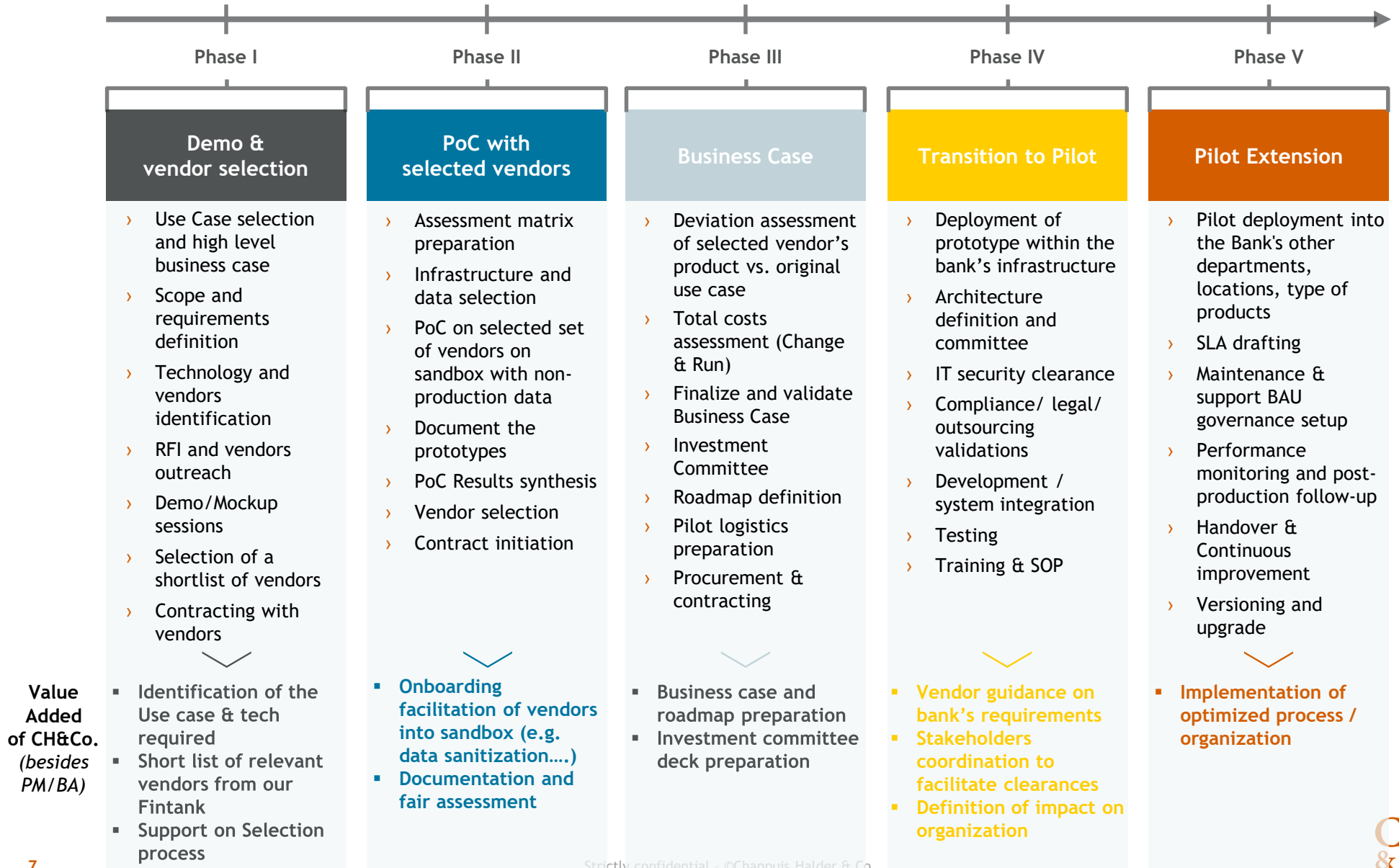
2

BUILD : From PoC to Industrialization

Our methodology to support solution
development

Our Approach to PoC - Pilot- Implementation

Simplified decision tree for the process study






3



Appendix

Process screening phases and deliverables

Phase 1 - High level assessment

	Detailed action steps	Key deliverables	
High level assessment	<ul style="list-style-type: none">› Set high-level objectives with process owners› Identify pain-points using a top-down (stakeholder-led) and bottom-up (data-driven) approach, conducting interviews/workshops and analyzing data› Clearly define and segment processes› Assess the automation suitability for each process (CH&CO's proprietary BOB tool is used for increasing assessment efficiency)› Shortlist automation initiatives for subsequent in-depth study	<ol style="list-style-type: none">1. Shortlist of processes for further detailed study	
Detailed process screening	Type of work		
	 Workshop	 One-on-one meeting / shadowing	 Analysis
Business case	Key stakeholders involved		
	<ul style="list-style-type: none">› Process owners		

Phase 2 - Detailed process screening

	Detailed action steps	Key deliverables
High level assessment	<ul style="list-style-type: none">› Detailed mapping of each process at a task-granular level, including identification of tools and resources, via a DILO study per process› Collection of KPIs such as Unit Processing Time, Volumes, overtime, # of operational errors, # of operational losses (financial impact), FTE cost and other monitored KPIs› Assess enhancement, automation suitability & complexity at a task level for each process	<ol style="list-style-type: none">1. High level assessment summary per process2. High level process description per process3. Automation suitability prioritization matrix
Detailed process screening	Type of work	
	 One-on-one meeting / shadowing	 Analysis
Business case	Key stakeholders involved	
	<ul style="list-style-type: none">› Process owners (minimal time investment at this stage)	

Deliverable (Sample)

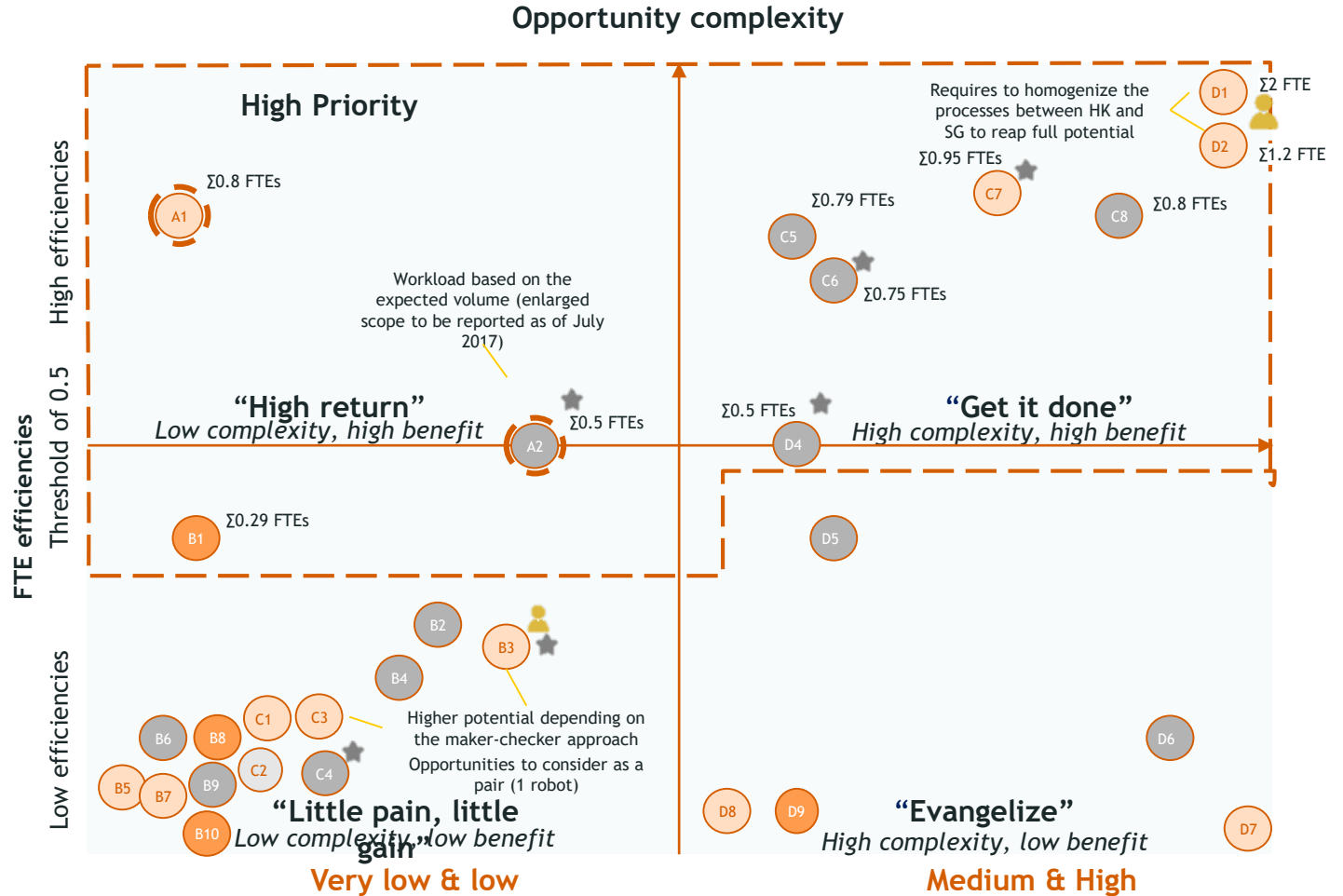
High level assessment summary per process

Team	Process	Process description / Scope for Enhancement / Automation	Volume / Frequency	Current effort	Benefits	Complexity (% Auto)
Team A HKG only 7 FTE + 1 team head	1 Name input and document upload in GCARS	<ul style="list-style-type: none"> › Manage and book the events (coupon, recall amount, etc.) for Asian and non-Asian underlying 	<ul style="list-style-type: none"> › 50 events per day › 1 FTE covering non-Asian underlying event from D-1 in the morning › 1 FTE covering Asian underlying event in the afternoon 	1 FTE	<ul style="list-style-type: none"> ✓ Client satisfaction ✓ Operational efficacy ✓ Workload sustainability ✓ Cost management ✓ Risk Management ✓ External forces 	High (80%)
Team A HKG only 7 FTE + 1 team head	2 Annual report scanning for Actimize input	<ul style="list-style-type: none"> › Daily reconciliation of trades by Market and Broker for listed derivatives and equity trades 	<ul style="list-style-type: none"> › Reconciliation performed twice a day › 15mins to consolidate & reconcile + 5mins to analyze for each report › 10 reports 	0.83 FTE	<ul style="list-style-type: none"> ✓ Client satisfaction ✓ Operational efficacy ✓ Workload sustainability ✓ Cost management ✓ Risk Management ✓ External forces 	Medium (95%)
Team B HKG + SGP 11 FTE + 2 team heads	3 Process B1	<ul style="list-style-type: none"> › Ensure accuracy between product sold and booking in system 	<ul style="list-style-type: none"> › Hong Kong › Equity: 300- 400 trades per month › Fixed income: 2 / 3 per day › Singapore 8 termsheets per months on average › 20 minutes per matching 	HK: 0.83 XX 0.10 XX SG: 0.01	<ul style="list-style-type: none"> ✓ Client satisfaction ✓ Operational efficacy ✓ Workload sustainability ✓ Cost management ✓ Risk Management ✓ External forces 	Medium (80%)
Team C HKG + SGP 7 FTE + 1 team head	4 Process C1	<ul style="list-style-type: none"> › Control the positions reported to HKTR and ensure the exhaustively leading to an manually upload in case of position missing 	<ul style="list-style-type: none"> › Currently 1 hour per day › To be expected: up to 4 hour 	0.5 FTE	<ul style="list-style-type: none"> ✓ Client satisfaction ✓ Operational efficacy ✓ Workload sustainability ✓ Cost management ✓ Risk Management ✓ External forces 	Low (100%)

Deliverable (Sample)

Automation suitability prioritization matrix

- Team A**
 1. Name input and document upload in GCARS
 2. Annual report scanning for Actimize input
 3. Escalation process to compliance
 4. Escalation process to Front Office
- Team A**
 1. Process 1
 2. Process 2
 3. Process 3
 4. Process 4
 5. Process 5
- Team A**
 1. Process 1
 2. Process 2
 3. Process 3
 4. Process 4
 5. Process 5
- Team A**
 1. Process 1
 2. Process 2
 3. Process 3
 4. Process 4
 5. Process 5





Potential Candidate for Pilot

Reduction of operational & regulatory risk



















Improvement of customer satisfaction

Phase 3 - Business Case

	Detailed action steps	Key deliverables
High level assessment	<ul style="list-style-type: none">› Prioritize automation initiatives based on ambition:<ul style="list-style-type: none">› Cost reduction› Risk mitigation› Re-allocation of resources› Business development› Define automation approach, action plan and implementation roadmap per process› Validate list of prioritized initiatives with management	<ol style="list-style-type: none">1. Overall FTE efficiency gains per department and location2. Detailed workload assessment per process3. Detailed implementation roadmap
Detailed process screening	Type of work	
	 Workshop	 Analysis
Business case	Key stakeholders involved	
	<ul style="list-style-type: none">› Process owners (minimal time investment at this stage)	

Our Smart Automation expertise

Our roadmaps combine a broad array of technologies to reap the full benefits of a Smart Automation program

Tech	Definition and Capacities	Deployment (from BR to Go live)	Tools
RPA	<ul style="list-style-type: none"> Covering manual, repetitive, scalable, rule-based processes with structured data as inputs 	2 to 4 months	   
OCR & NLP	<ul style="list-style-type: none"> Objective to digitize information from paper documents and images (unstructured or semi-structured) for extracting and classifying data (generally combined with RPA) 	3 to 6 months	  
Tactical Development	<ul style="list-style-type: none"> Data heavy processes, reconciliation and processes requiring a database approach and or data visualization, e.g. Python, C#, Tableau, Java, including combination of several technologies 	1 to 6 months	     
Smartform	<ul style="list-style-type: none"> Structure paper or digital existing forms with intelligent and dynamic “smart forms” enabling data structuration and automated population of data 	3 to 4 months	  
Traditional IT	<ul style="list-style-type: none"> Leverage on adding functionalities to an existing in-house or vendor system 	1 to 9 months	 



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