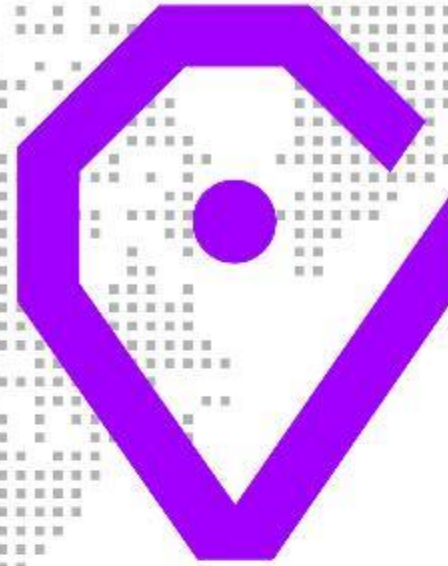


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SMART LEAN

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SMART-LEAN, OR HOW TO TAKE THE BEST OF LEAN AND SMART AUTOMATION APPROACHES



Smart Lean

An approach combining the best of the 2 levers to maximize and secure the automation of optimized & value-added processes




Lean


- ✓ Respond **quickly and effectively** to **process inefficiencies**
- ✓ Set up **suitable operating methods**
- ✓ Significantly **reduce lead times and stocks** and increase productivity




Smart automation

- ✓ **Automate repetitive tasks** with low added value
- ✓ Allow employees to **focus on high-value added** activities (“customer” contact)
- ✓ **Secure non-quality**


 Process improvement approach allowing quick & long-term savings, BUT...

 ... Which is generally limited to non-IT opportunities (because expensive, complex & time-consuming to set up in IT)

Automation approach (RPA) of all or part of a low added value process, BUT...



... Which is generally taken as an IT project and misses the Added Value module of the process automation














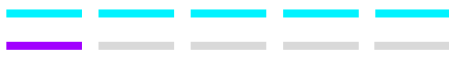




SMART LEAN BOOSTS LEAN BENEFITS AND ADDRESSES ITS LIMITATIONS FOR GREATER IMPACTS



	Comments	Benefits	Limitations
<p>➤ As is process</p>	<p>The baseline process suffers from rework, waiting times and wasteful activities performed by manpower</p>		<ul style="list-style-type: none"> Value added time is a small percentage (10% to 20%) of total lead time
<p>➤ Automated only process</p>	<p>Some tasks are automated and some, tasks are reordered so that man/machine interactions are limited</p>	<ul style="list-style-type: none"> Less workload Less waiting time Less lead time 	<ul style="list-style-type: none"> Value-added blind Non value-added tasks remaining, some being automated
<p>➤ First, Lean the process...</p>	<p>Some non value added tasks are optimized, even removed</p>	<ul style="list-style-type: none"> Less workload Less waiting time Less lead time 	<ul style="list-style-type: none"> Some non value added tasks remain and consume capacity
<p>➤ ... then Smart Automate the Leaned process</p>	<p>Value-added tasks and remaining Non valued added tasks are automated</p>	<ul style="list-style-type: none"> Less workload Less waiting time Less lead time Manpower focused on vaalue-dded tasks 	

Legend

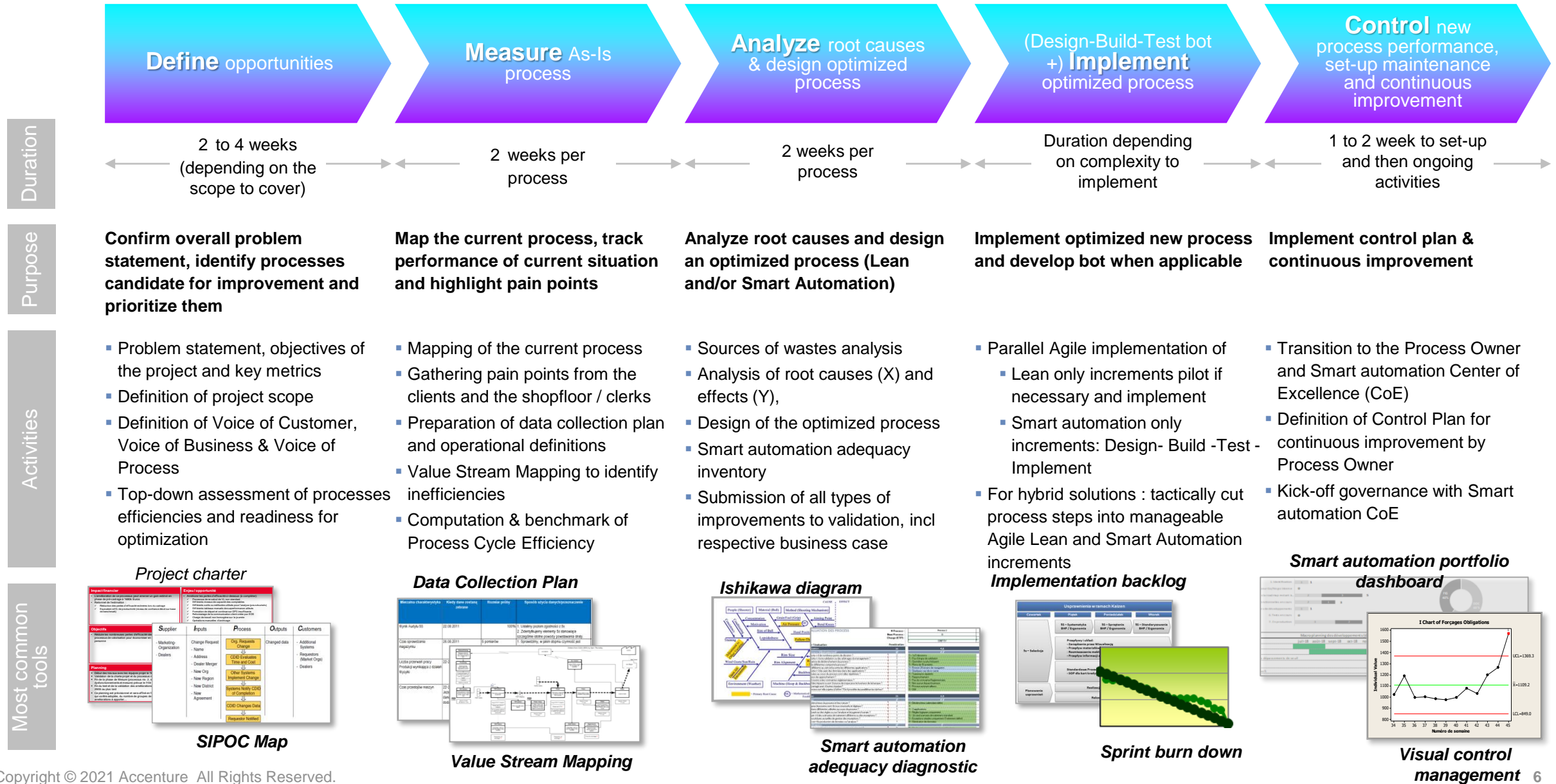
- █ Non value-added task
- █ Value-added task
- Performed by manpower
- Performed by Smart automation

DEPENDING ON THE TYPE OF WASTE LEAN OR SMART AUTOMATION WILL BE MOST SUITED, SMART LEAN ENABLES TO TACKLE ALL TYPES OF WASTE EFFICIENTLY

8 types of wastes	Power of Lean & Smart automation	Comments
 Transportation - Unnecessary movements of products & materials		<ul style="list-style-type: none"> • Tours improvement, batch sizing • Digitalization topic rather than RPA topic
 Inventory - Excess products and materials not being processed		<ul style="list-style-type: none"> • Pulled flow, Work-In-Process control • 24/24 bandwidth and automation led flash time reduction
 Motion - Unnecessary movements by people (e.g. walking, cross applications navigation)		<ul style="list-style-type: none"> • Non value added activities deleted/ diminished • Automation boosted Lean benefits e.g. cross applications information transfer by bots
 Waiting - Wasted time waiting for the next step in the process		<ul style="list-style-type: none"> • One-piece flow, validation frequency increase, batch downsizing • 24/24 automation led shrinking of waiting time
 Overproduction - Production in excess of need		<ul style="list-style-type: none"> • Non value added inputs/outputs deleted/ diminished • Automation led “on demand” volume adjustment
 Over-processing - More work or higher quality than is required by the customer		<ul style="list-style-type: none"> • Focus on client value-added, tasks re-ordering, “just in case” activities questioning, complexity segmentation • Automation of simplified activities
 Defects - Efforts caused by rework, scrap, and incorrect information.		<ul style="list-style-type: none"> • Mistake proofing, data format enforcement • Automation powered mistake proofing, audit trail
 Miss-utilized talents - Underutilizing people’s talents, skills & knowledge		<ul style="list-style-type: none"> • Non value added tasks minimized, competencies matrix • Bots focused on repetitive tasks, manpower on value-added tasks

 Lean
 Smart automation

THE SMART LEAN APPROACH IS BASED ON A 5 STEPS FRAMEWORK INCLUDING AGILE DELIVERY



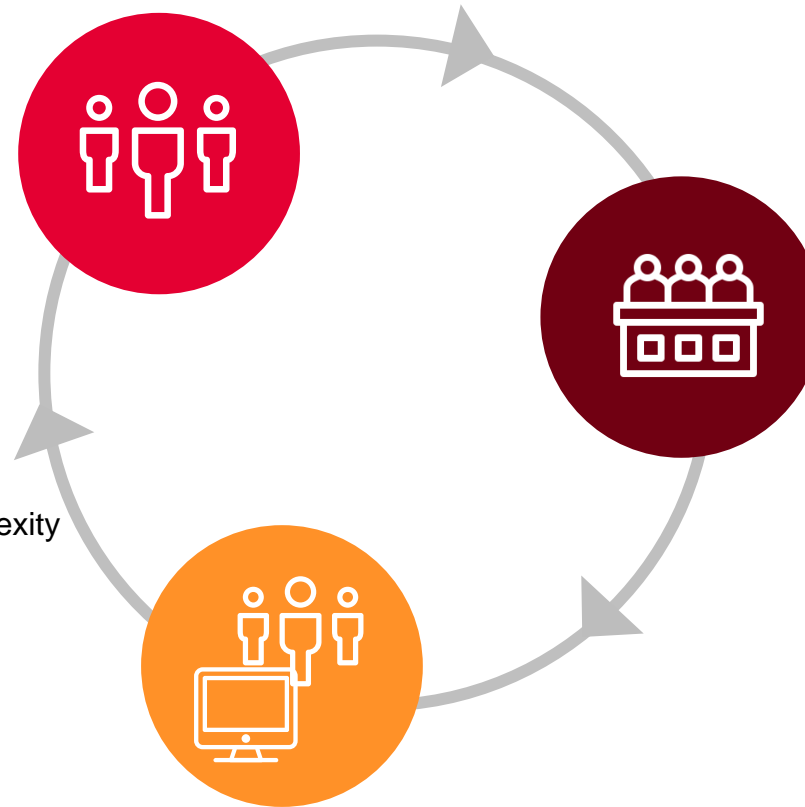
A TARGET OPERATING MODEL MIXING FUNCTIONAL AND TECHNICAL ROLES IS SET UP

Business lines

- Identify opportunities for improvement
- Implement Lean improvements
- Develop business case
- Qualify automation opportunities
- Prioritise their own opportunities pipe
- Monitor deployment plan and benefits materialisation
- Carry out UAT
- Sit on Automation governance

Automation Center of Expertise

- Technically qualifies automation opportunities
- Evaluates and communicates automation opportunities complexity and feasibility timeline
- Develops automation opportunities and implements them into production
- Maintains and upgrades automated opportunities
- Defines and enforces development norms
- Monitors scripts library
- Defines, collects and improves automation performance KPIs
- Sits on Automation governance



ILLUSTRATIVE SPLIT
OF
RESPONSIBILITIES

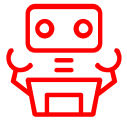
Automation Governance

- Sets automation guiding principles, do's and don't's
- Prioritises pipe of improvements once consolidated on the many Business lines
- Approves development of automation
- Spreads best practices
- Promotes post mortem key learnings
- Monitors improvements deployment plans and benefits materialisation across business lines

APPENDIX

PROCESS ASSESSMENT WILL DETERMINE WHICH SMART AUTOMATION LEVERS WE CAN LEVERAGE TO DELIVER THE MOST VALUE

Smart Automation enablers



Process Automation for,

- Repetitive
- Rule Based
- Structured Data



Virtual Agents using,

- Natural Language Processing
- For human like UI or dialogue
- Multifactor authentication
- Knowledge Processing



AI Advisors

- Enables machines to sense, comprehend, act and learn. To analyze data and make informed decisions on their own or with minimal human augmentation or intervention.



Predictive Analytics

- encompasses a variety of statistical techniques from data mining, predictive modelling, and machine learning, that analyze current and historical facts to make predictions about future or otherwise unknown events to identify risks and opportunities.



Business Process Management for,

- Process Orchestration
- Scripts, macros, bath program
- Minibots & Auto Hotkeys



Machine learning

- Automate process areas involving human judgement and interaction leveraging ML/DL based algorithms, computer vision technologies and virtual agents



Natural Language Processing (AI)

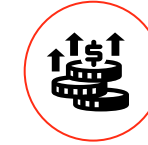
- The ability to understand human language as it is spoken.
- Can deal with unstructured data



Intelligent OCR

- Advanced optical character (incl handwriting) that allows fonts and different styles of handwriting to be learned by a computer during processing to improve accuracy and recognition levels and digitize paper based inputs

To deliver tangible benefits...



Increased Productivity & lower costs

- Potential to operate 24x7
- Processing costs reduced by 80%



Higher Staff satisfaction

- Eradicating monotonous tasks allowing individuals to focus on higher value work



Reduction in Lead Time

- UP to 20 times faster response & processing time



Consistent quality delivered

- 100% Error Reduction



Provision of greater visibility & auditability

- Individual cases can be stored and retrieved as evidence.

RPA as a lever to go one step further in the search for efficiency and digitalization...

RPA (Robotised Process Automation or robotics) is the use of a virtual workforce (virtual assistants) capable of imitating human actions on a software by following a predefined script. It allows users to configure software "robots" to run all or part of existing processes, using several systems and applications, as a human would do;

Internal & external systems

- Access to internal and external applications and systems (incl. internet)
- Navigate within applications and interact with different elements and windows
- Enter/paste the requested data
- Export and upload files

Data management

- Extract / load data from systems and databases
- Consolidate, analyze/compare, structure data sets
- Perform calculations

Desktop tools

- Open and manipulate spreadsheets and text editors
- Export and transfer data from one file to another
- Formatting files
- Generate reports and graphs

E-mails

- Open e-mails
- Export attached documents
- Check the reception of the mails
- Organize mails in folders or redirect them to a team member according to defined rules
- Send an email with attachments (internal and/or external)



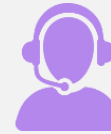
... and generate quantitative & qualitative benefits

RPA brings advantages in terms of efficiency and quality while allowing great flexibility in its implementation and maintenance.

Improved quality



Humans errors out
Compliance /Audit trail
improvement (process steps are logged and stored)



Increasing capacity and refocusing staff on value and customer service
=> **staff satisfaction**

Improved efficiency

Cycle time reduction up to

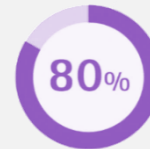


24/7

A robot can operate 24/7 if the underlying applications are available at machine speed

Cost saving

Process costs reduced up to



Scalability and flexibility
Peaks of activity managed at less than the cost of one FTE
Rapidly deployed resources.

Quick implementation



RPA software can **quickly be set up and bots designed so that automation** is deployed



Reuse of brick that are, stored in libraries