

Students at AFRY



AFRY Future Stars

- One-year career accelerator programme for students in Finland
- Positions mainly for students of engineering and natural sciences
- Application period 8.11.2021 – 31.1.2021
- The programme starts in May 2022
- Webinar 8.11.2021 at 18:00-19:00 via Zoom
- For more information, please visit our website



Lecture 7

Basics of Procurement

CHEM-E0115 PLANNING AND EXECUTION OF A BIOREFINERY PROJECT

ANNA KUZNETSOVA

Agenda

1. Introduction to Procurement

- Procurement Function
- Procurement VS Purchasing
- Procurement in the Value Chain

2. Procurement Process

- Procurement Planning
- Supplier Selection
- Contracting
- Contract Management
- Evaluation & Closure

3. Sustainable Procurement

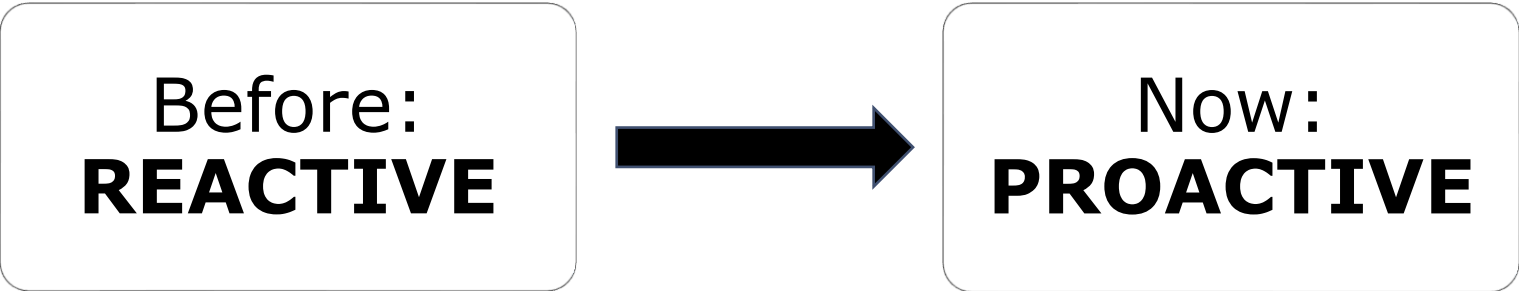


Introduction to Procurement



...it is a wide range of activities to ensure that equipment, materials and services are available at site at the right time with the best possible combination of quality, delivery time and price.

Procurement Function



Global competition



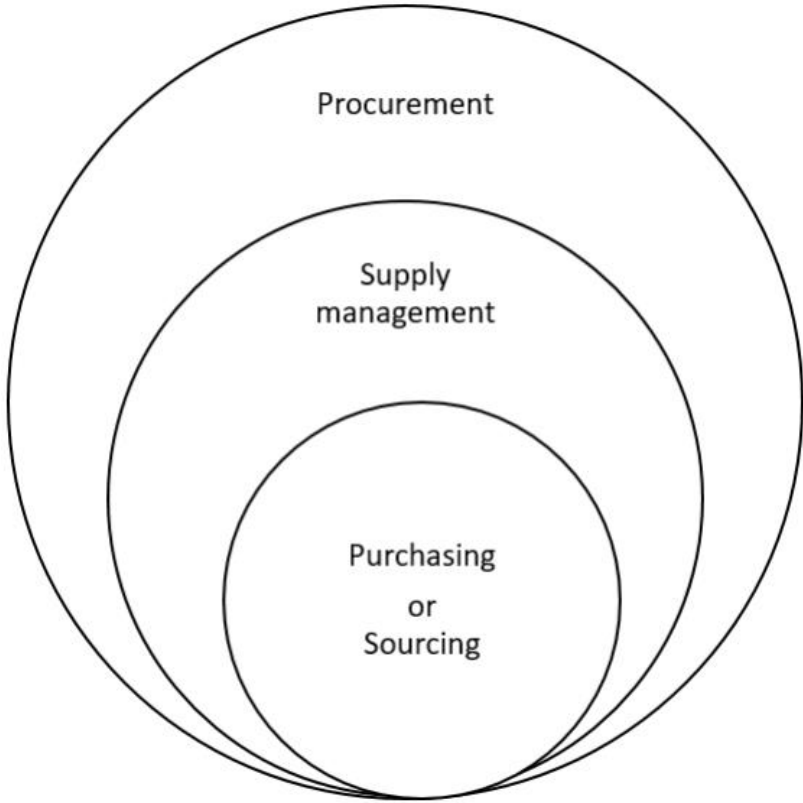
Increased outsourcing



Improved communication

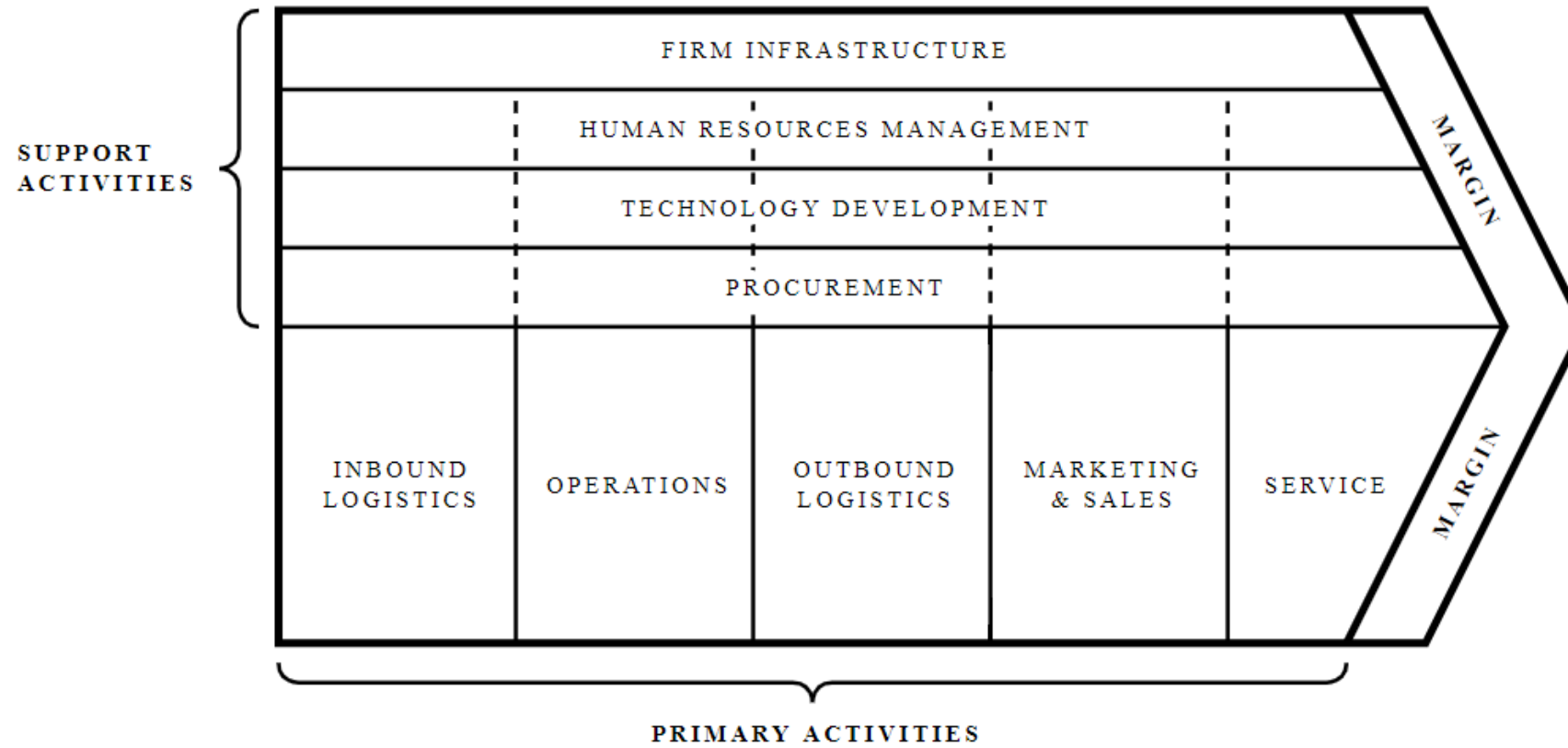
Procurement VS Purchasing

PROCUREMENT	PURCHASING
Activities related to acquiring goods and services	Functions associated with buying goods and services
Steps that happen before, during, and after purchase	Straightforward process of purchasing commodities
Used in a production environment (internal process)	Used in a wholesale environment (external process)
Puts more importance on an item's value than its cost	Tends to focus more on the item's price than its value
Refers to a set of tasks that spot and fulfill needs	Refers to the specific task of committing expenditure
Includes need recognition, sourcing, and contract closure	Includes ordering, expediting, and payment fulfillment
Follows a proactive approach to spot and fulfill needs	Follows a reactive approach to satisfy internal needs
Relational —focuses on creating long-term vendor relationships	Transactional —focuses on transactions than vendor relationships

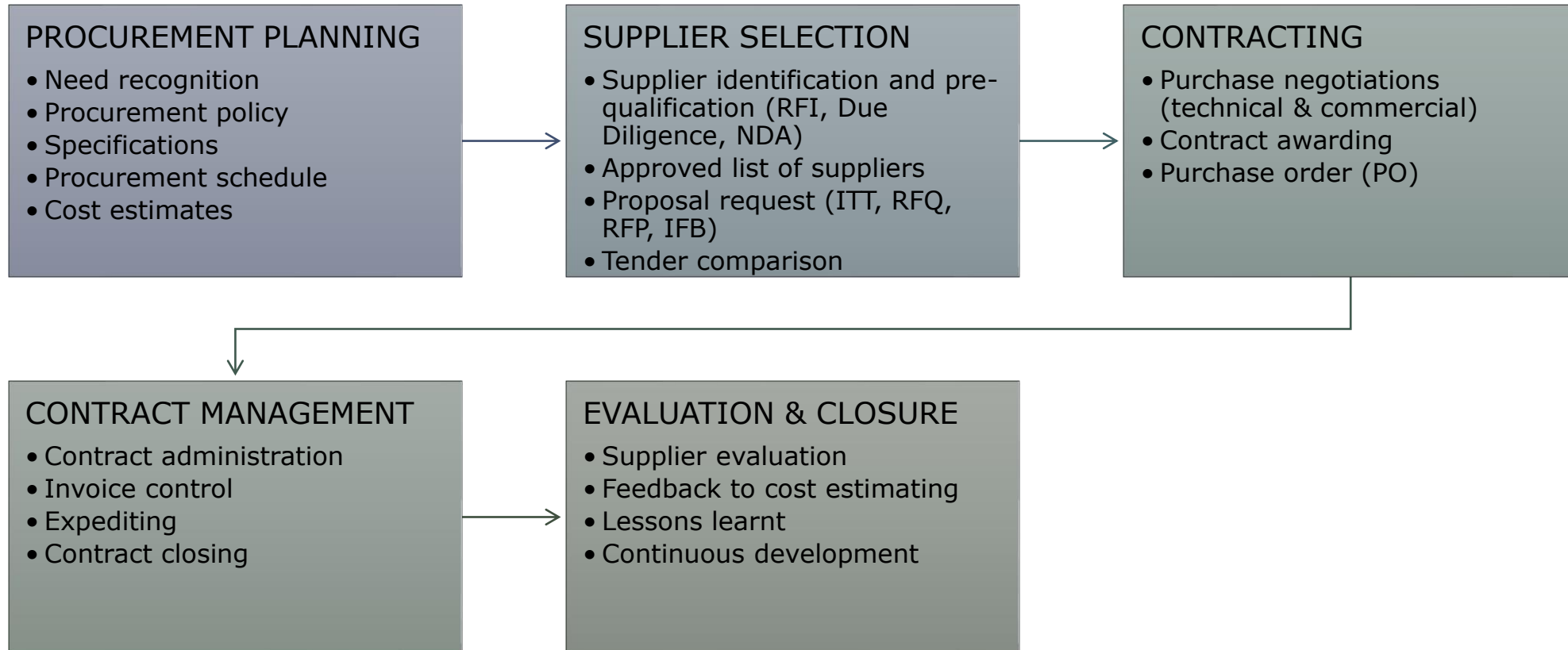


Procurement comprises sourcing, purchasing, expediting as well as shipping and receiving the goods and services.

Michael Porter's Value Chain (1985)



Typical Procurement Process



Procurement Planning

- Identify a definite need to purchase a product or service
- The idea originates outside the procurement department
 - the procurement department's function is to buy on behalf of the rest of the organization
- Establish a procurement policy (confidentiality, public vs private procurement, selection criteria, etc.)
- Clearly define specifications, project requirements, standards
- MOB analysis (if applicable)



Procurement Schedule Examples

Package Name	ITT No.	Sourcing Responsible	Technical Responsible	Start	Finish
Overhead Cranes	M023	Anna	Jukka		
Enquiry Preparation				3.8.2020	14.8.2020
Tendering Time				17.8.2020	7.9.2020
Tender Comparison				8.9.2020	18.9.2020
Negotiations				21.9.2020	25.9.2020
Contract Day				28.9.2020	28.9.2020

ITT No	Package Name	ITT out PLANNED	ITT out ACTUAL	ITT out Δ	Tenders Received PLANNED	Tenders Received ACTUAL	Tenders Received Δ	Tender Comparison PLANNED	Tender Comparison ACTUAL	Tender Comparison Δ	Contract Day PLANNED	Contract Day ACTUAL	Contract Day Δ
M023	Overhead Cranes	17.8.2020	20.8.2020	3	7.9.2020	15.9.2020	8	18.9.2020	30.9.2020	12	28.9.2020	12.10.2020	14

Unresolved technical issues, unclear scope of supply, etc.

High workload of suppliers, holidays, sick leaves, etc.

Delayed offers + incomplete offers with unclear points

Delayed preceding phases + schedule difficulties in arranging negotiations

Supplier Selection

- Identification of Suppliers
 - Select potential suppliers per equipment / service / geographical area
 - Maintain supplier register (database)
 - Supplier pre-qualification (HSE, Ethics, Capacity/Resources, Finance, References)
- Requesting Offers (RFQ, RFP, ITT, IFB)
 - Issue enquiries with all the required documentation
 - Receive and archive offers
- Tender Evaluation
 - Distribute the technical part of offers to the engineering team for technical bid evaluation (TBE)
 - Commercial bid evaluation (CBE)
 - Recommendation to the Client for negotiations



Example of Price Information in Offers

SUPPLIER NAME			CRANES OY
Tender submission date			14.9.2020
Tender validity until			14.12.2020
Tender currency			EUR
DELIVERY			580 000,00 €
M023 Overhead Cranes:	Units	Unit Price	Total Price
Overhead cranes 5t	5	35 000,00	175 000,00
Overhead cranes 10t	3	60 000,00	180 000,00
Overhead cranes 40t	2	100 000,00	200 000,00
Freight (including packaging):			
DDP, Incoterms 2010			25 000,00
SITE SERVICES			88 000,00 €
Installation:			
Overhead cranes 5t	5	7 000,00	35 000,00
Overhead cranes 10t	3	8 500,00	25 500,00
Overhead cranes 40t	2	10 000,00	20 000,00
Supervision and Start-up, 2 days	including all travel expenses		5 000,00
Training, 1 day	including all travel expenses		2 500,00
SPARE PARTS			75 000,00 €
Spares for 2 years			75 000,00
OPTIONS			
Service Agreement, per year			7 000,00
Other Colour, per crane	basic colour included in the price		750,00
Coating System C5, per crane	C4 included in the price		2 350,00

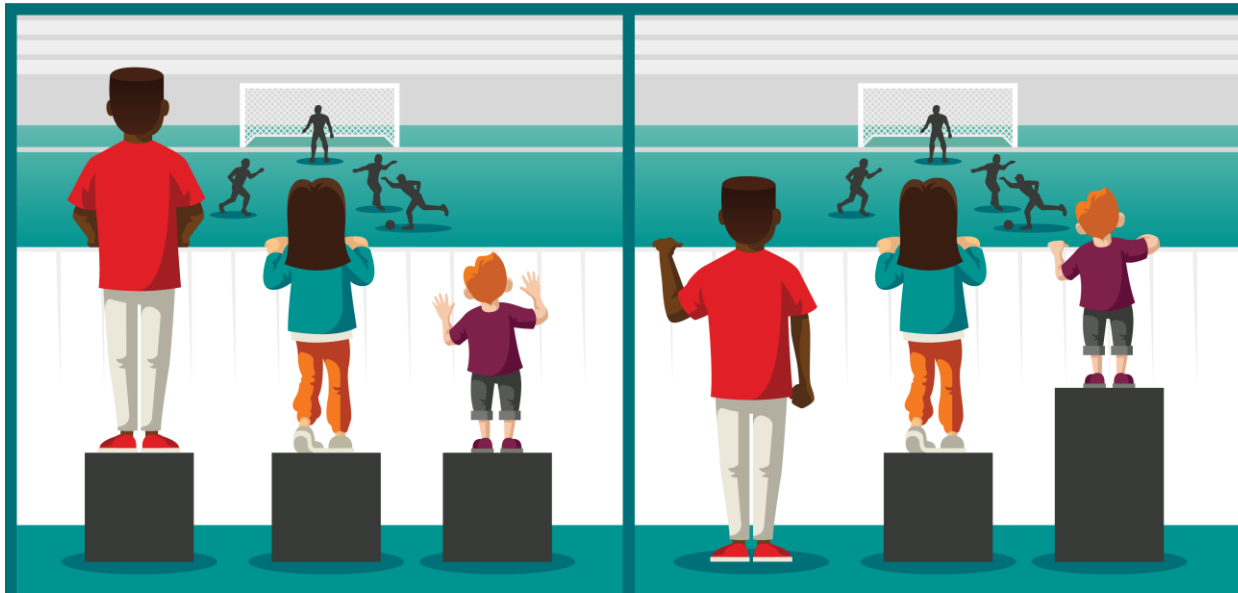
Dominating Selection Criteria among Industrial Buyers



Treating Tender Participants Equally or Fairly?

EQUAL

FAIR



All tender participants must be treated equally and fairly.

However, equal is not always fair.

Contracting

- Contract Documentation
 - Contracting model: Delivery Contract, Installation Contract, Frame Agreements, Engineering Contract, EPC, EPS, etc.
 - Contract templates: Client's own templates, SSG, PSK, FIDIC, YSE-1998 (Civil Construction), RYHT 2000 (Construction Materials), KSE-2013 (Consulting Services), NL17 (Machinery), etc.
- Negotiations
 - Negotiation strategy, authority matrix, allocated budget
- Contract Awarding
 - Contract compiling, filling out contract appendices, signatures according to the authority matrix
- Purchase Orders
 - Creating purchase requisitions and purchase orders (POs) in the Client's ERP system

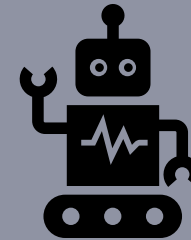


Contract Content



Legal-Economic Part

- Legal stipulations
- Prices
- Payment terms
- Bank guarantees
- Liquidated damages
- Delivery schedule



Technical Part

- Warranties (performance, mechanical, availability)
- Technical specification & datasheets
- Technical standards
- Safety requirements
- Quality assurance inspections

Contract Management

- Contract Administration
 - Ensure that responsibilities and milestones are being met and the value of the contract is not increasing throughout unmanaged growth of scope
 - Management of change orders
- Invoice Control
 - Checking invoices againsts contract and payment milestones
 - Releasing invoices to Client's finance department for payment
- Contract Closing
 - Contract closing meeting and final settlements



Expediting



DESK EXPEDITING

- Kick-off & monthly meetings with selected suppliers
- Document follow-up
- Manufacturing status
- Sub-supply status



FIELD EXPEDITING

- Planning expediting visits according to the expediting categories
- Conducting expediting visits → output: expediting reports



SHIPPING

- Cargo readiness / shipping inspection
- Shipping and customs monitoring
- Unsatisfactory, Overage, Shortage and Damage (UOSD) reporting before arrival to the Site

Expediting Categories

➤ **CATEGORY A:**

- Deliveries are on the critical path (large packages, use of new suppliers or unknown sub-suppliers, etc.)
- Any delay or quality issue will impact the project schedule and/or return on investment (ROI)
- Doubt or lack of experience of the supplier or their sub-supplier

➤ **CATEGORY B:**

- No direct impact on the execution of the project, if delivered slightly delayed to site, but where the documentation is essential to proceed with the detailed engineering
- Items on sub-critical path and are getting critical when delayed by 2 weeks
- Items which will have an operational impact because of its role into the process (e.g. compressor package, process cooling unit, etc.)

➤ **CATEGORY C:**

- Delivery time is well sufficient for manufacturing and shipment, but which can result in significant additional activities if delayed
- Hand valves, standard items, which may be limited as stock items

➤ **CATEGORY D:**

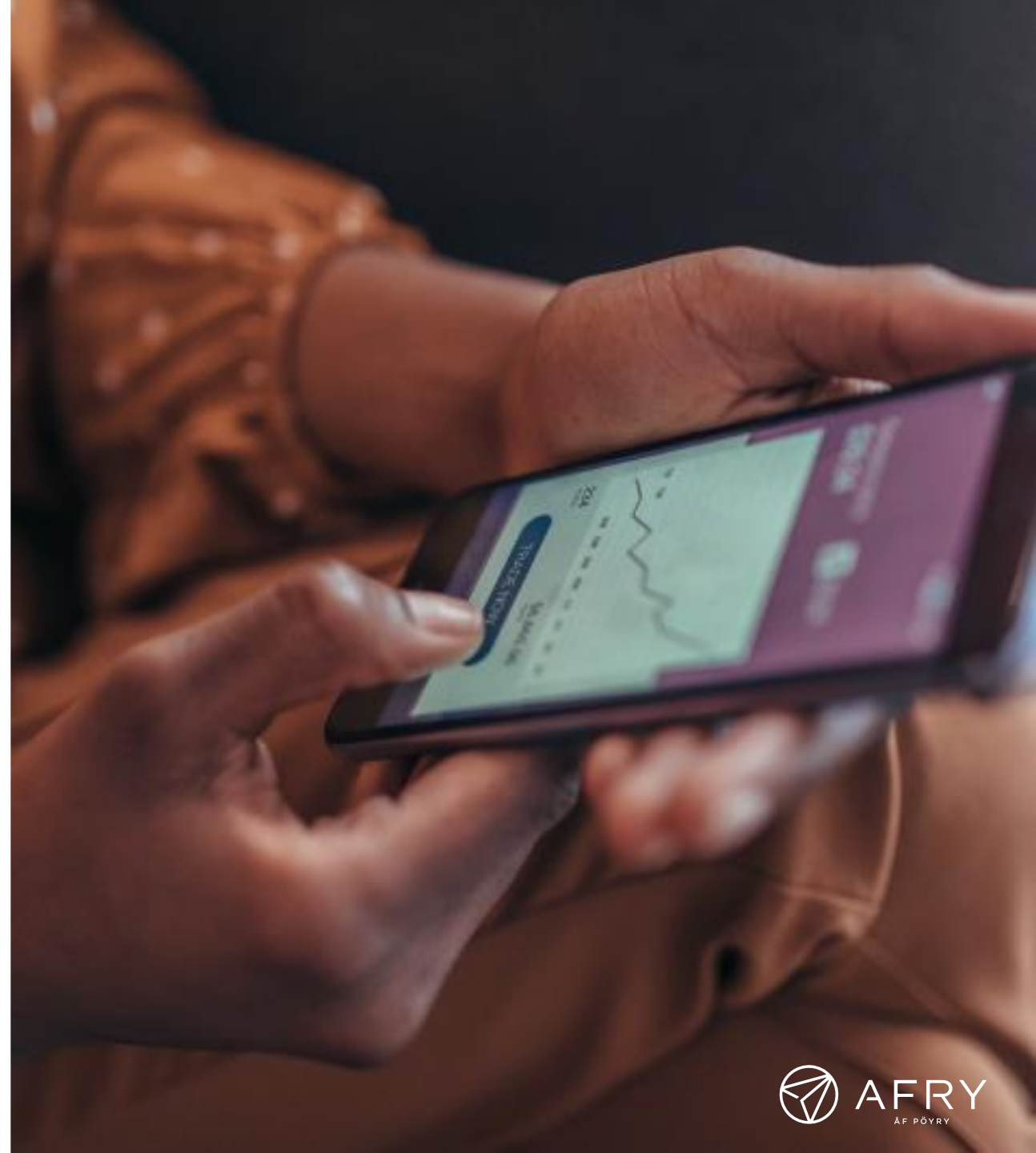
- Not critical items at all and do not require any specific expediting actions
- Bulk material deliveries

Progress Report Example

Description	Weighted Factor	PROGRESS															
		Sep 2019		Oct 2019		Nov 2019		Dec 2019		Jan 2020		Feb 2020		Mar 2020		Apr 2020	
		Est %	Act %	Est %	Act %	Est %	Act %	Est %	Act %	Est %	Act %	Est %	Act %	Est %	Act %	Est %	Act %
Engineering	30	10 %	8 %	60 %	70 %	80 %		100 %		100 %		100 %		100 %		100 %	
Procurement	25	0 %	0 %	40 %	40 %	90 %		100 %		100 %		100 %		100 %		100 %	
Manufacturing	25	0 %	0 %	30 %	30 %	40 %		70 %		100 %		100 %		100 %		100 %	
Inspection & Testing	10	0 %	0 %	30 %	10 %	30 %		30 %		70 %		100 %		100 %		100 %	
Delivery	10	0 %	0 %	0 %	0 %	0 %		0 %		50 %		100 %		100 %		100 %	
TOTAL	100	3	2	39	40	60	0	76	0	92	0	100	0	100	0	100	0
MAIN EVENTS:	Engineering	Please briefly write here what has been done during the reported month.															
	Purchasing																
	Manufacturing																
	Assembly																
	Inspection & Testing																
	Packing																
	Delivery																
CONCERNS AND MITIGATION PLAN:	Engineering	Please briefly mention challenges you face, if any, & ways you are planning to overcome them.															
	Purchasing																
	Manufacturing																
	Assembly																
	Inspection & Testing																
	Packing																
	Delivery																
	Mitigation Plan																
TARGETS FOR NEXT PERIOD:	Engineering	Please briefly write here your main activities in the next month.															
	Purchasing																
	Manufacturing																
	Assembly																
	Inspection & Testing																
	Packing																
	Delivery																

Evaluation

- Generally, supplier performance is evaluated with regard to:
 - Quality
 - Delivery time / Schedule
 - HSE
- Not all suppliers need to be evaluated in the same way
- Supplier records with past performance serve as a reliable guide for upcoming purchases
- Benefits of a supplier database:
 - Significantly reduces the time and effort required either to source or to renew contracts
 - More choices of competent suppliers & increased responsiveness
 - Increased possibility to get reliable suppliers
 - Enhanced availability of goods



Closure

- A complete set of indexed contract documentation, including the closed contract, is prepared for inclusion with the final project files.
- The buyer provides the seller with formal written notice that the deliverables have been accepted.
- Lessons learned, what has been experienced and process improvement recommendations should be developed for the project file to improve future procurements.

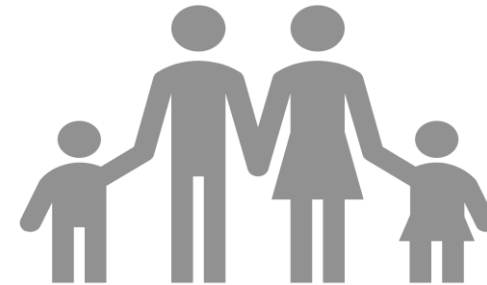


Why Sustainable Procurement?

Sustainable Procurement integrates requirements, specifications and criteria in order to meet the needs for goods and services in a manner that secures a good affair with respect to the entire life-cycle. This in turn benefits not only the purchasing organization but also the society at large, while minimizing damage to the environment.

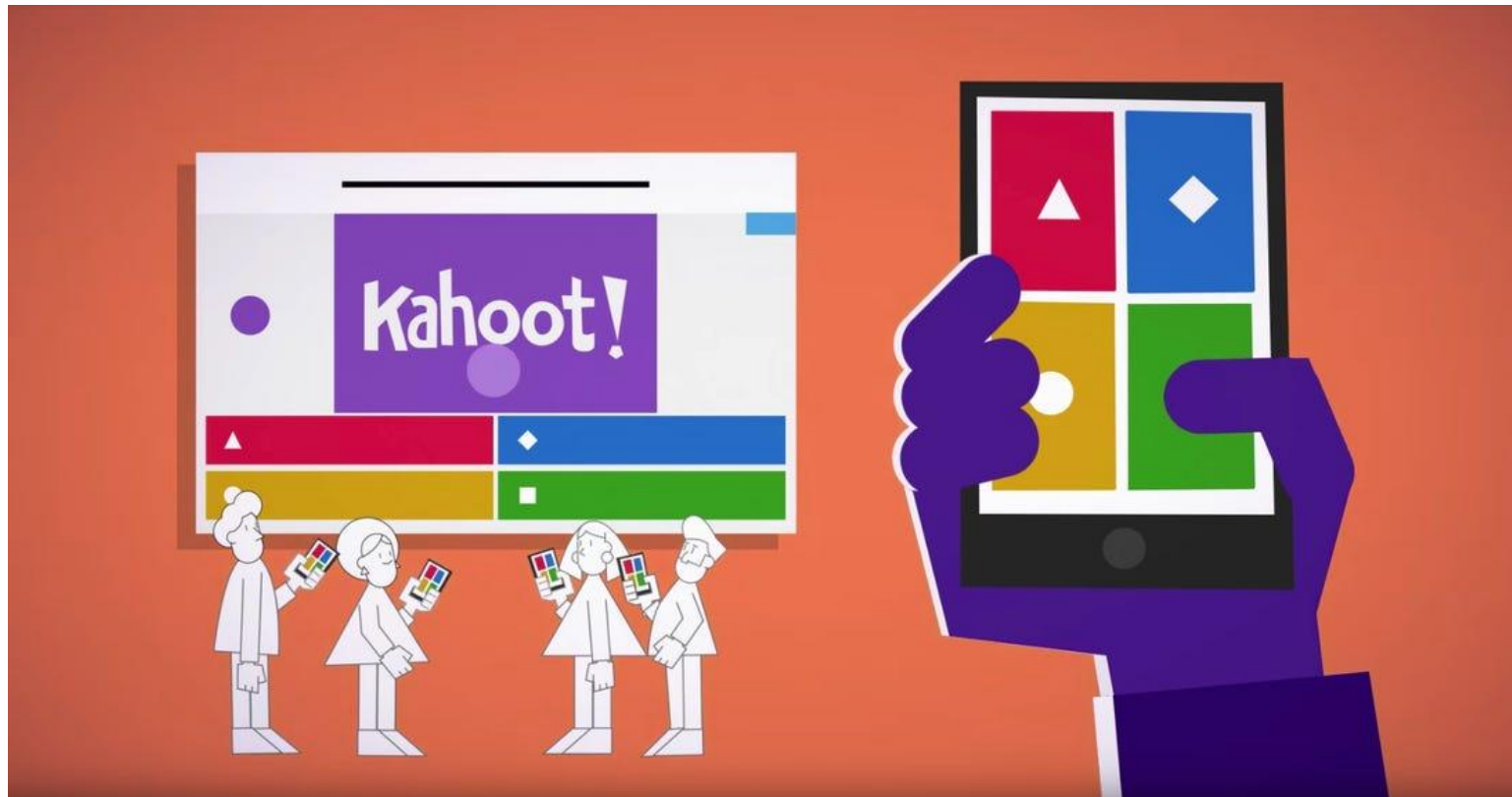


Lowest
environmental impact



Most positive social
results

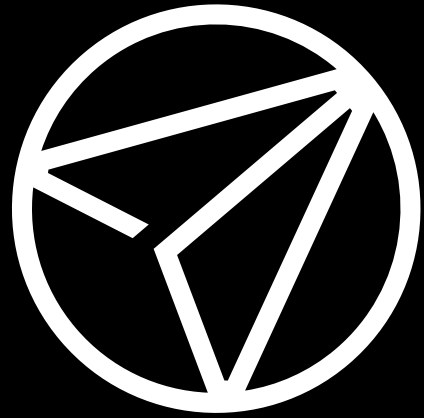
Let's play Kahoot!



1. Take a mobile phone
2. Go to **Kahoot.it**
3. Insert the game PIN
4. Enter any nickname of your choice

Questions?

Please contact me by email anna.kuznetsova@afry.com



AFRY

ÅF PÖYRY