

Sustainable Supply Chain for a Sustainable Construction

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PRESENTATION OF CRP HENRI TUDOR

in 2 SLIDES



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- Since 1987, CRP Henri Tudor contributes to the improvement and strengthening of the innovation capacity of enterprises and public organisations.
- Staff at the end of 2007: 335
- Income 2007: 29.08 M Euro
- Budget 2008: 31,2 M Euro
- Activities:
 - Applied and experimental research
 - Doctoral research
 - Development of tools, methods, labels, certifications and standards
 - Technological assistance, consulting and watch services
 - Knowledge and competences transfer, as well as incubation of high-tech companies
 - Training and high-level qualification
- Number of RDI projects: 147

Scientific and Technological Domains:



Information and communication technologies



Materials technologies



Business organisation and management



Environmental technologies



Health care technologies



Targeted Sectors:

Services	Finance	Production
Construction	Health care and social security	Public Sector

A particular attention is given to SME.

A presentation stemmed from research project
SC Construct :

“More competitiveness through innovation in the Luxembourg construction industry”

Context :

- * Poor performances in the construction sector.
- * Lack of socioeconomic vision in construction project



The generic conflict

Empower and keep fragmented each individual key actor at the different stages of development

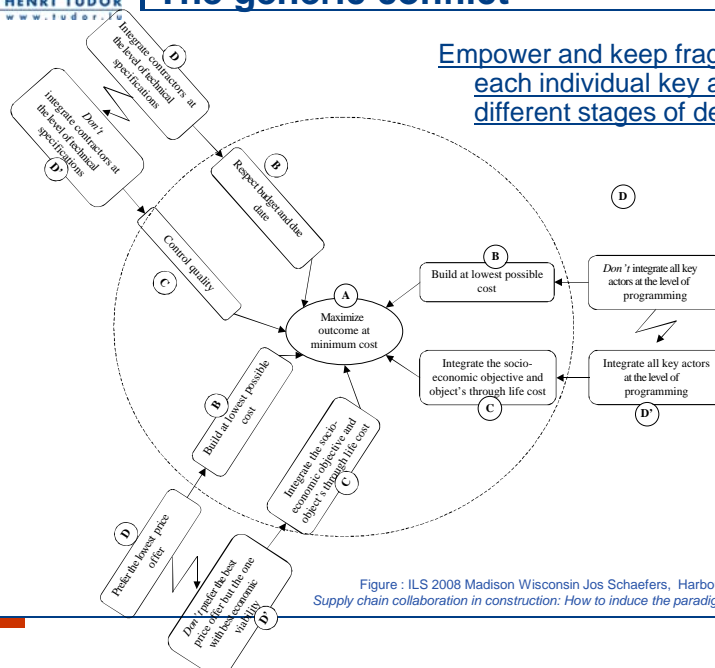


Figure : ILS 2008 Madison Wisconsin Jos Schaefers, Harbouche Lahcene, Supply chain collaboration in construction: How to induce the paradigm shift for more value.

Poor performance:

A study based on 66 projects (750 M€) shows :

- 3 / 4 projects go to 50 % over budget.
- 2 / 3 projects go to 63 % over delivery time.

Sources : *Building Down Barriers - A Guide to Construction Best Practice* Author : Thomas Clive Cain

- 30% of the activity consists in reworking what is already made
- 10% of the material on building site is definitively lost

Sources : <http://www.bre.co.uk> :The Construction Lean Improvement Programme

Another study based on all construction projects shows?

**Client Wants
More for Less**

Sustainable construction has 2 major issues:

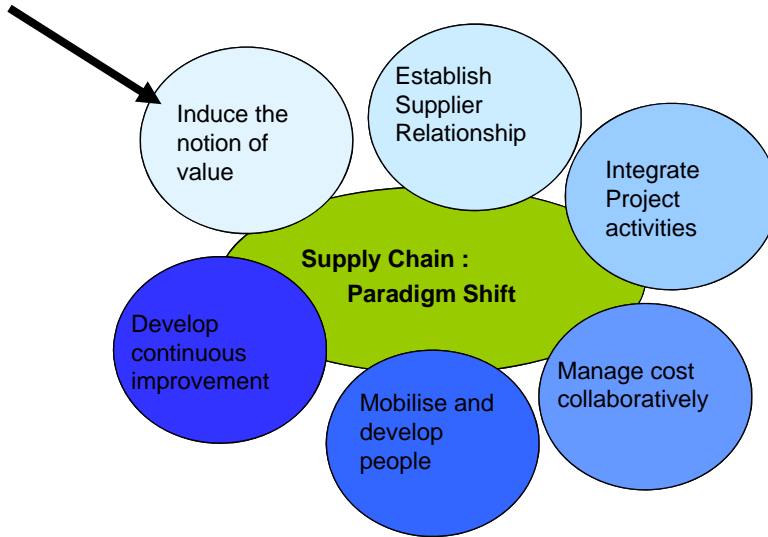
- An environmental issue: the construction industry:
 - is the source of 40% of CO2 emissions and waste in developed countries, represents 37% of energy consumption,
 - and is responsible for 40% of the waste produced in these countries.
- An economic and social issues: the building sector:
 - represents 10% of GDP (Gross Domestic Product) World
 - employs more than 100 million people, or 28% of jobs worldwide.
 - has very low profits (especially for the 97 % of companies which have less than 20 employees).

Construction industry has a new challenge :

- Affordable building for masses in term of
 - Construction
 - and Through-life cost

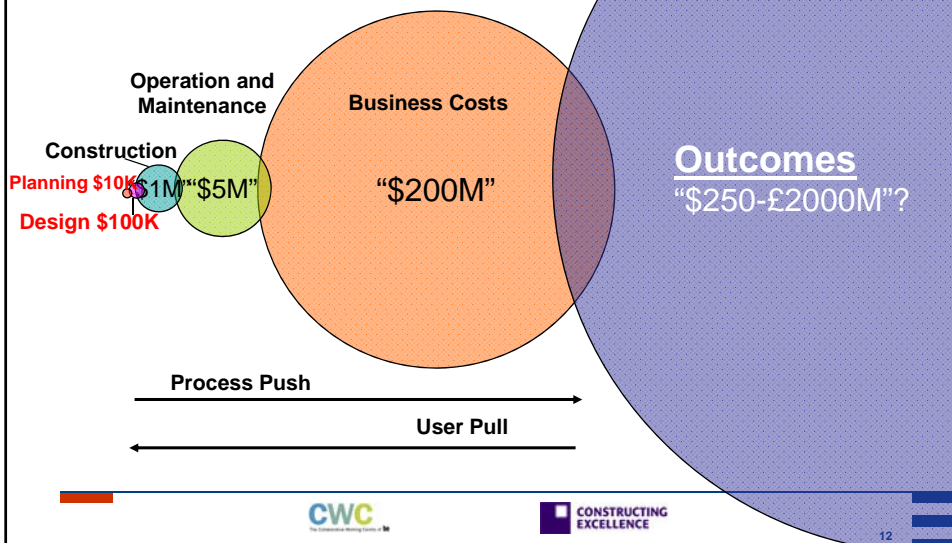
This challenges is not the matter of a single company but a strong collaboration between companies,clients and users

Supply chain: The underlying principles

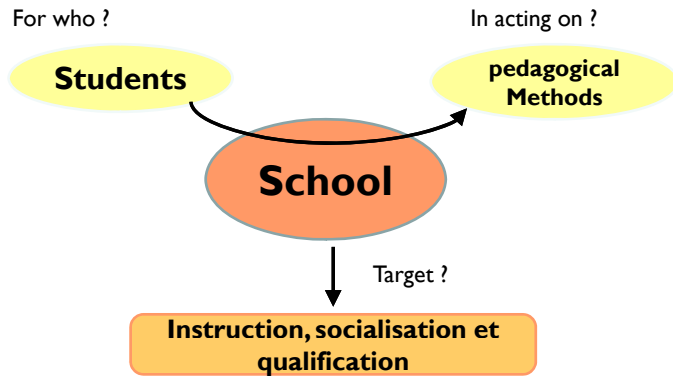


Induce the notion of value

What the customer really needs



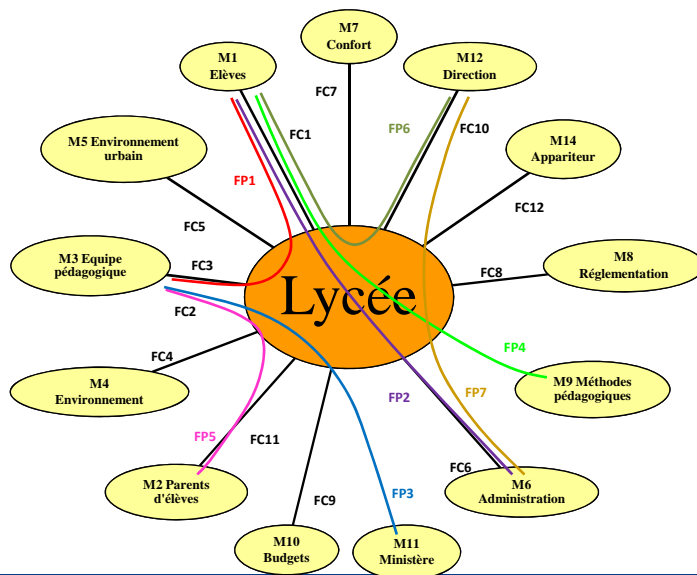
Functional analysis : Thinking outcomes from the planning.



- Primary Function
- How measure the associated outcomes

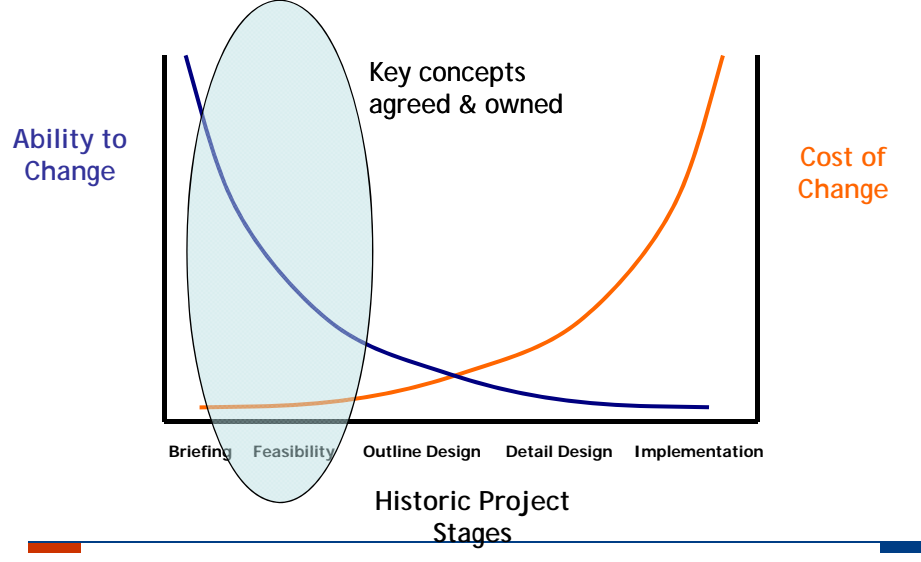
Graph of interactions

- Function constraints
- Function complementary

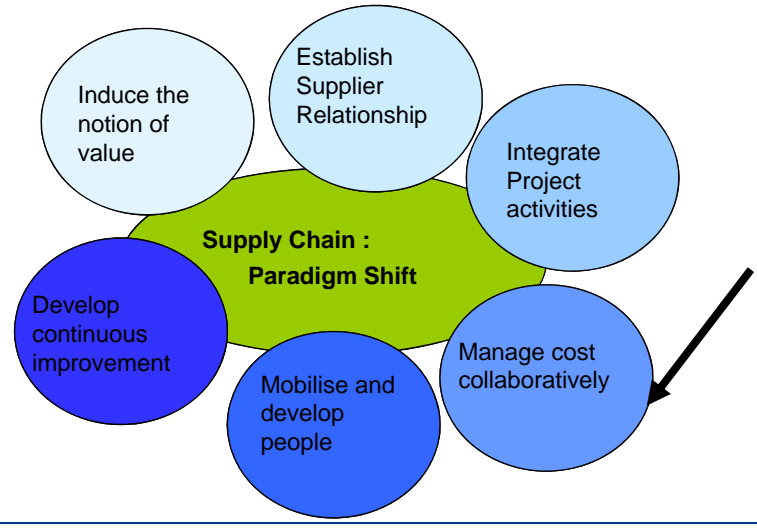


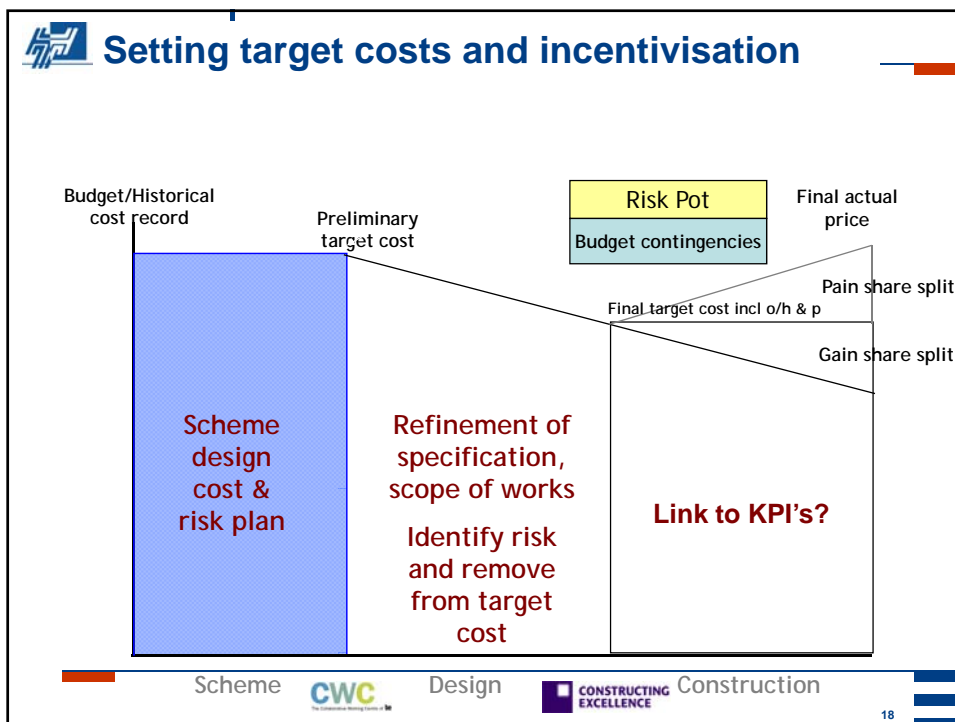
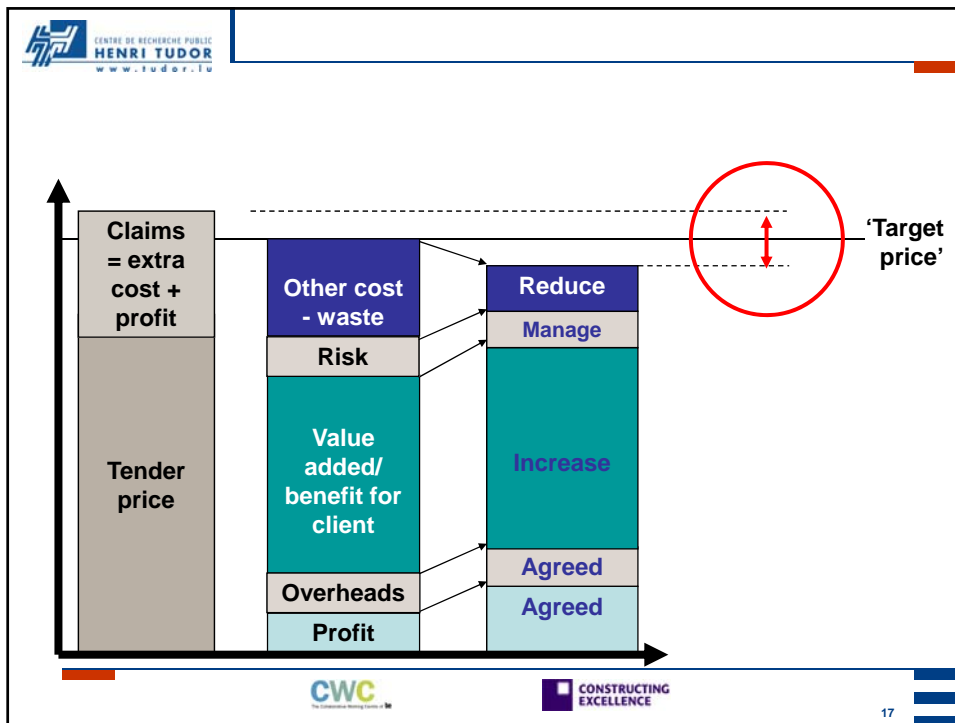
Involve Supply Chain

Early To Unlocking Benefits

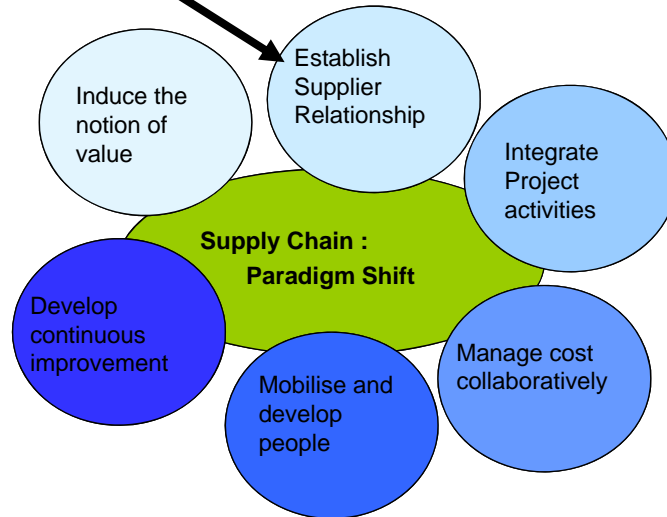


Supply chain: The underlying principles



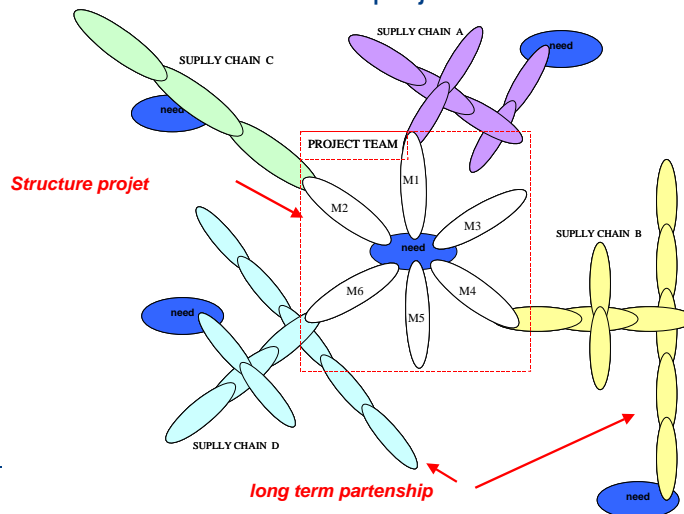


Supply chain: The underlying principles

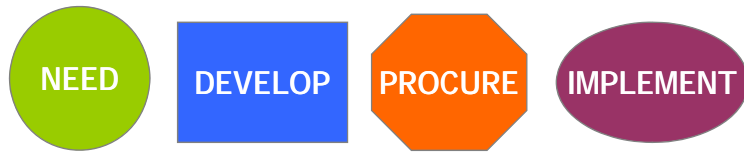


Establish Supplier Relationship

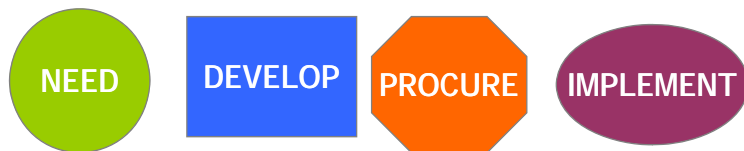
➤ The products and services provided by the companies in the supply chain typically account for over 80% of the total cost of a construction project.



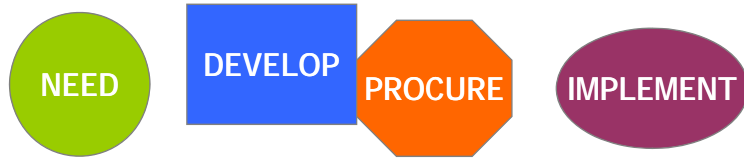
The "Historic" Process



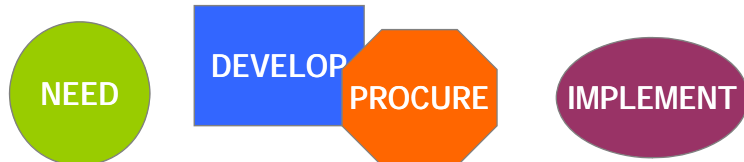
The "Historic" Process



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The "Historic" Process

NEED

DEVELOP

PROCURE

IMPLEMENT

The "Historic" Process

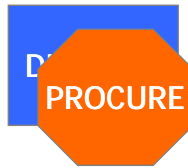
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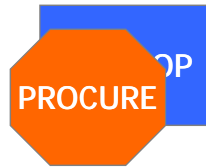
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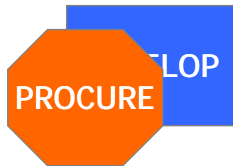
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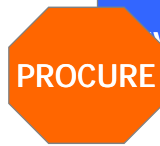
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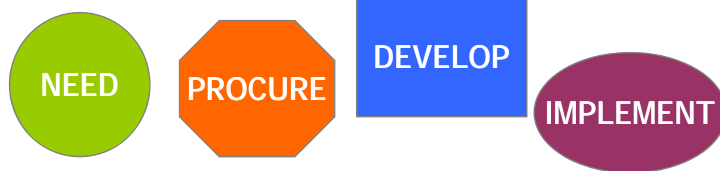
The "Transitional" Process



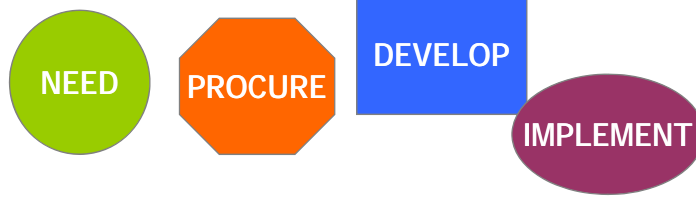
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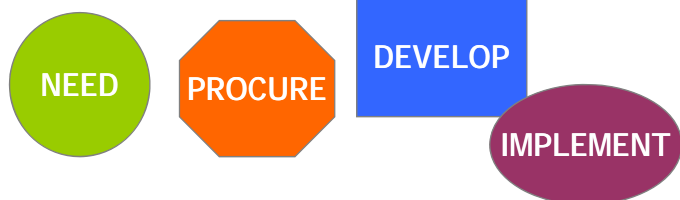
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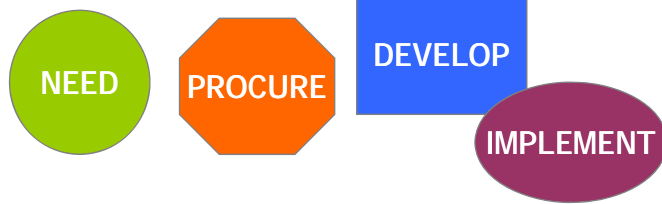
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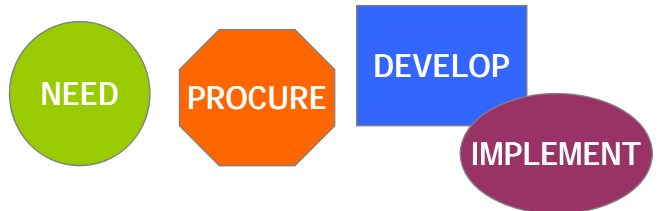
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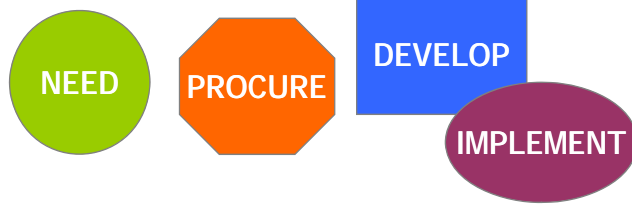
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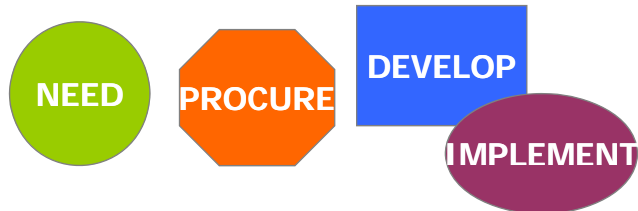
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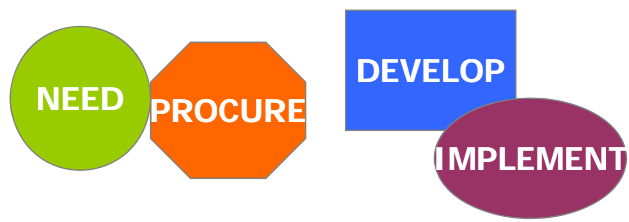
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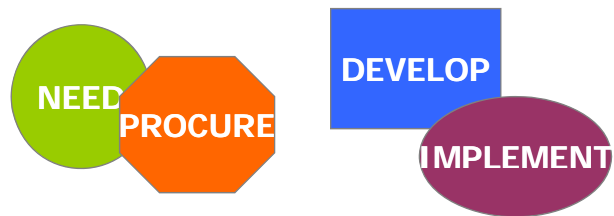
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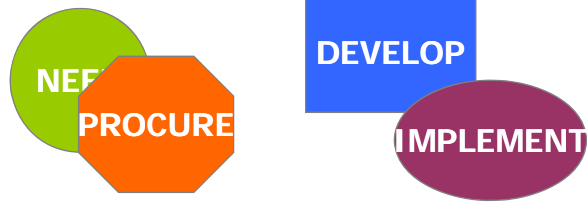
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The "Transitional" Process



The "Transitional" Process



The "Transitional" Process



The "Transitional" Process



The "Transitional" Process



The "Aspirational" Process



QUESTIONS ?

