



Tomorrows Tools of the Trade in Public Commissioning

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Chair of Public Commissioning in the Built Environment*



Chair of Public Commissioning

Delft University of Technology

Founded by Dutch Construction Clients Forum in 2014





Relevance of construction sector for European economy (Eurostat):

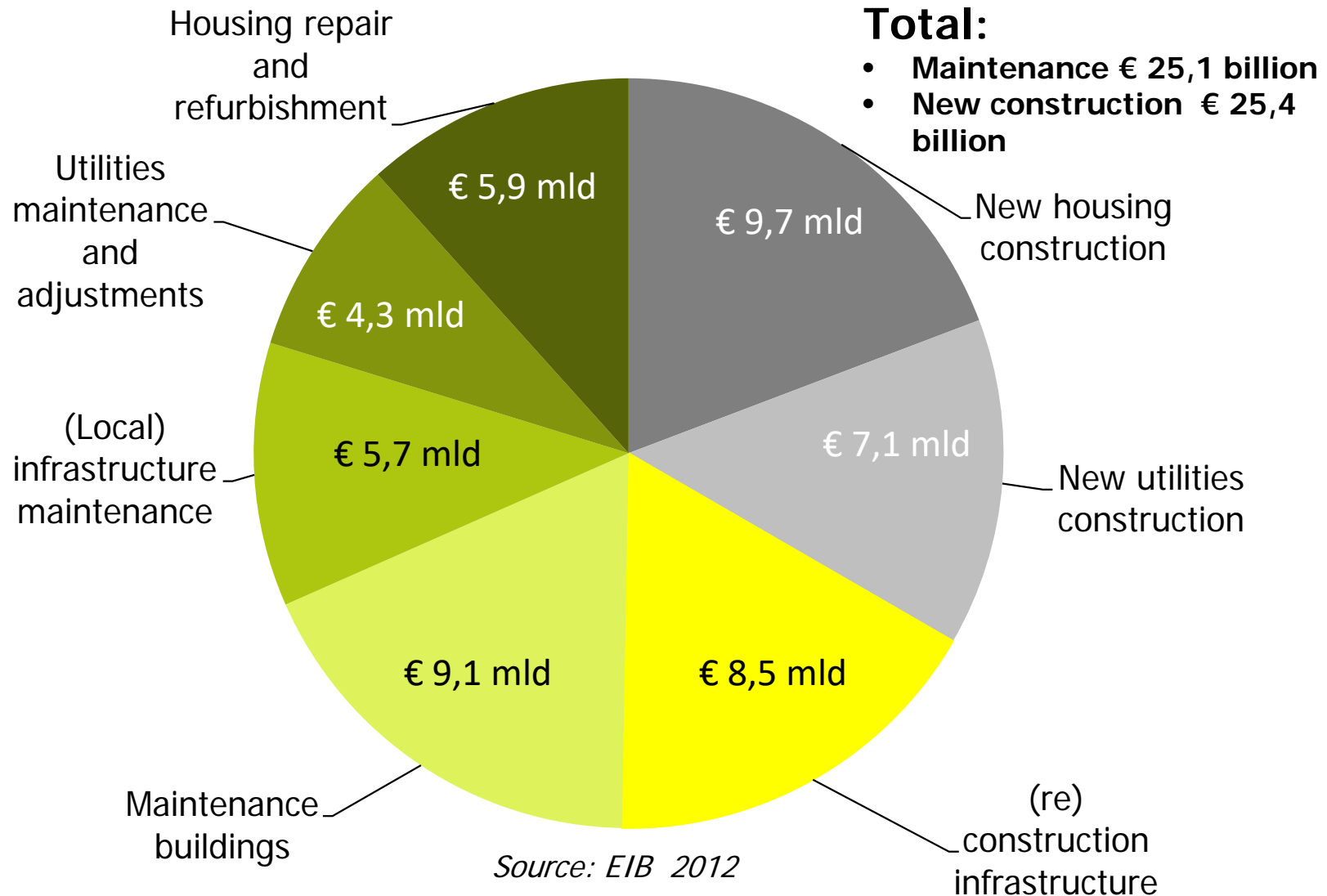
- 9% GNP (2016)
- € 650 billion added value (2014)

Dutch building production (EIB, 2016):

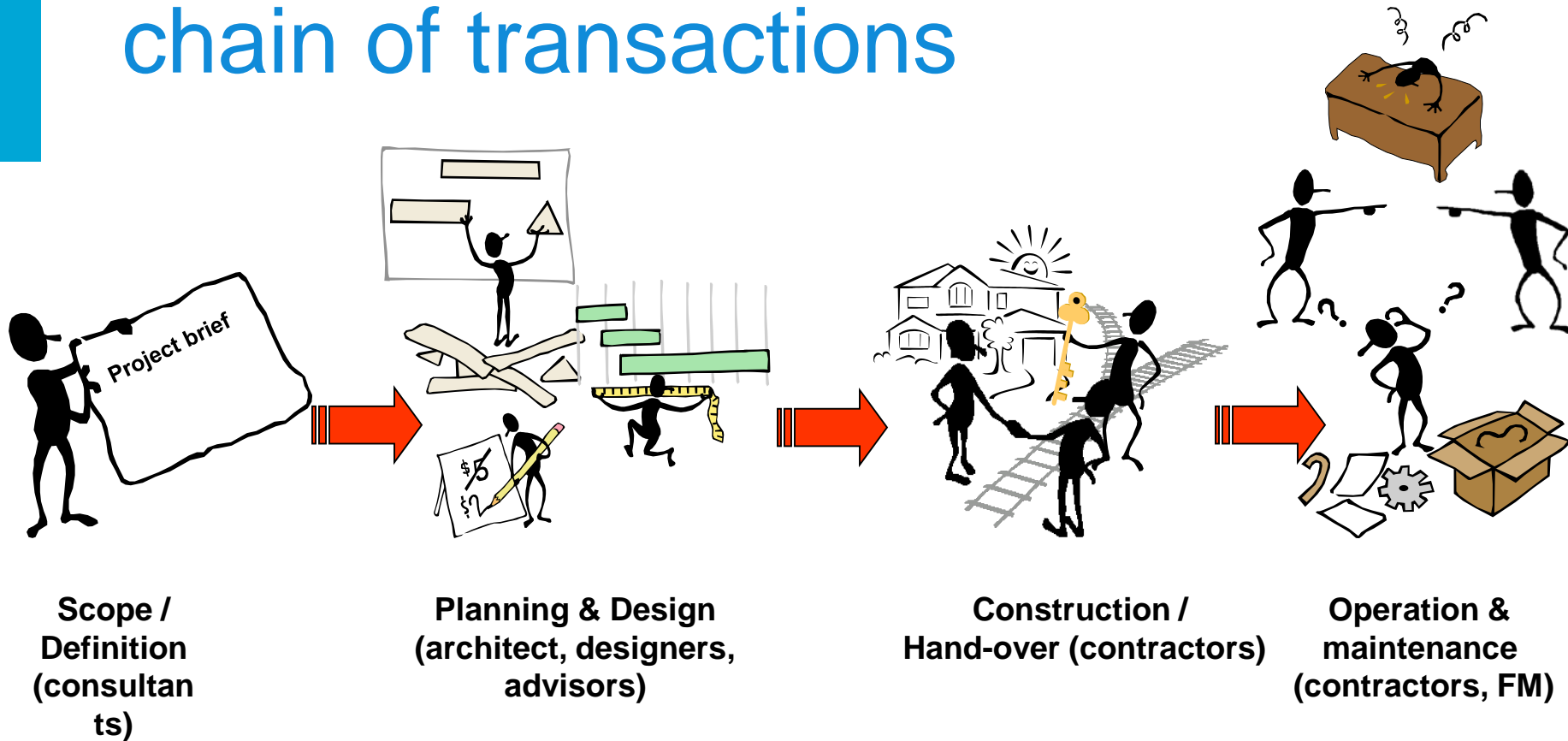
- € 60 billion added value

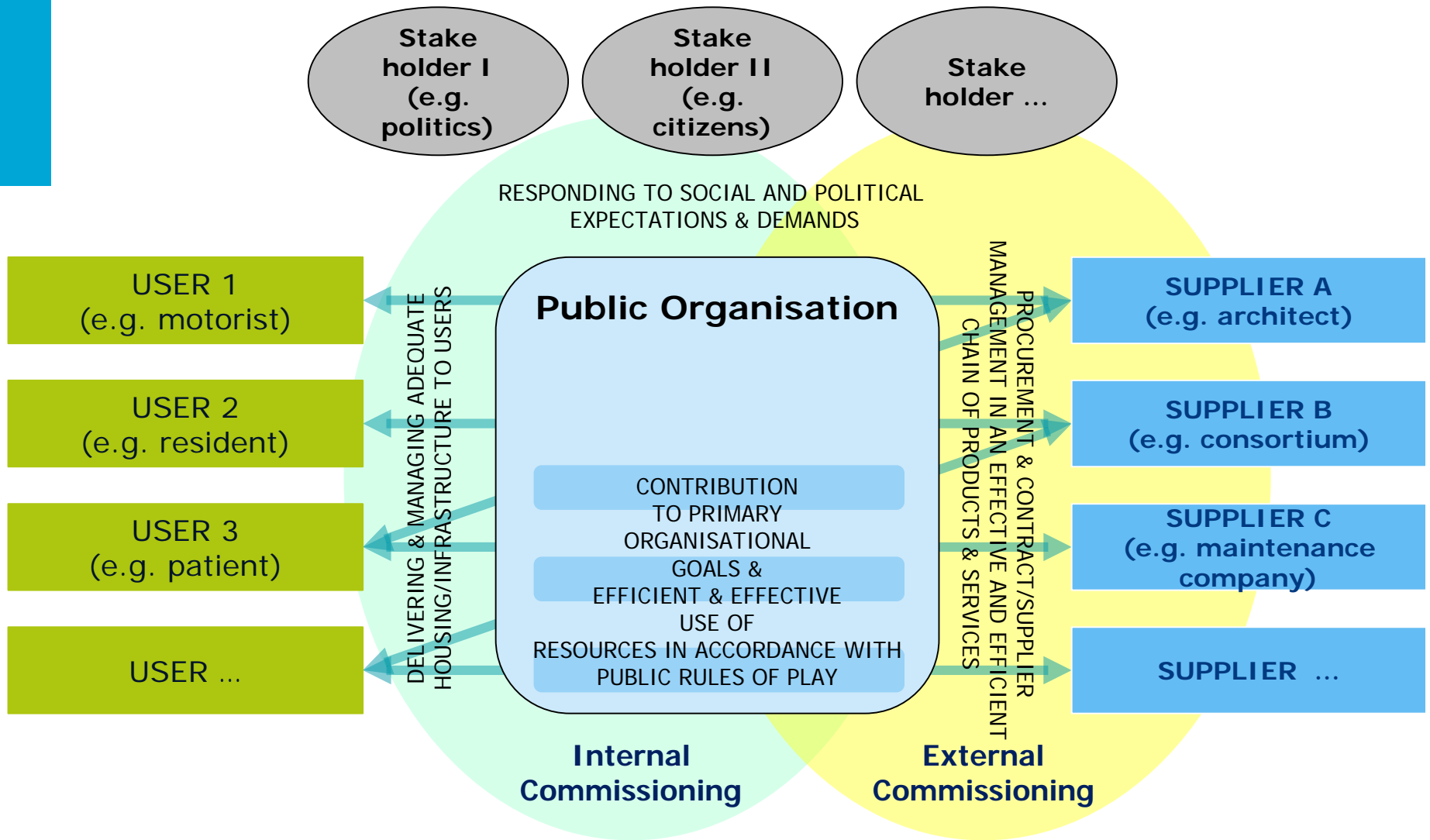


Construction volume in NL



The construction process: chain of transactions







How about
Public commissioning?



Politics
Social responsibility
Cultural responsibilities
Sustainability
Accountability
Efficiency
Participation
Launching customership

THE EUROPEAN UNION

Member States and
applicant countries



PUBLIC PROCUREMENT DIRECTIVES

The Paris climate agreement: key points



The historic pact, approved by 195 countries, will take effect from 2020

Temperatures 2100



- Keep warming "well below 2 degrees Celsius". Continue all efforts to limit the rise in temperatures to 1.5 degrees Celsius"

Finance 2020-2025



- Rich countries must provide 100 billion dollars from 2020, as a "floor"
- Amount to be updated by 2025

Differentiation



- Developed countries must continue to "take the lead" in the reduction of greenhouse gases
- Developing nations are encouraged to "enhance their efforts" and move over time to cuts

Emissions objectives 2050



- Aim for greenhouse gases emissions to peak "as soon as possible"
- From 2050: rapid reductions to achieve a balance between emissions from human activity and the amount that can be captured by "sinks"

Burden-sharing



- Developed countries must provide financial resources to help developing countries
- Other countries are invited to provide support on a voluntary basis

Review mechanism 2023



- A review every five years
First world review: 2023
- Each review will inform countries in "updating and enhancing" their pledges

Climate damage




- Vulnerable countries have won recognition of the need for "averting, minimising and addressing" losses suffered due to climate change






Future value = ensuring that a building (and its components) is in use and remains that way

A person is holding a large, tangled ball of colorful string (yellow, orange, green, red, and white) in their hands. The string is coiled and knotted, forming a complex, spherical shape. The person's face is partially visible in the background, looking down at the string. The background is a plain, light-colored surface.

*The adaptive capacity is
the ability of a building to
respond to dynamics
(changing requirements) in
its use.*

ADAPTIVITY



Adaptive to
Dynamics in existing
use



Adaptive to:
Different function





Circularity =
process AND
product!



Real estate and sustainability

- Energy consumption
- CO₂-emissions
- Use of materials
- Production of waste
- Social return



Project delivery
models – or: how
to collaborate
with the supply
chain

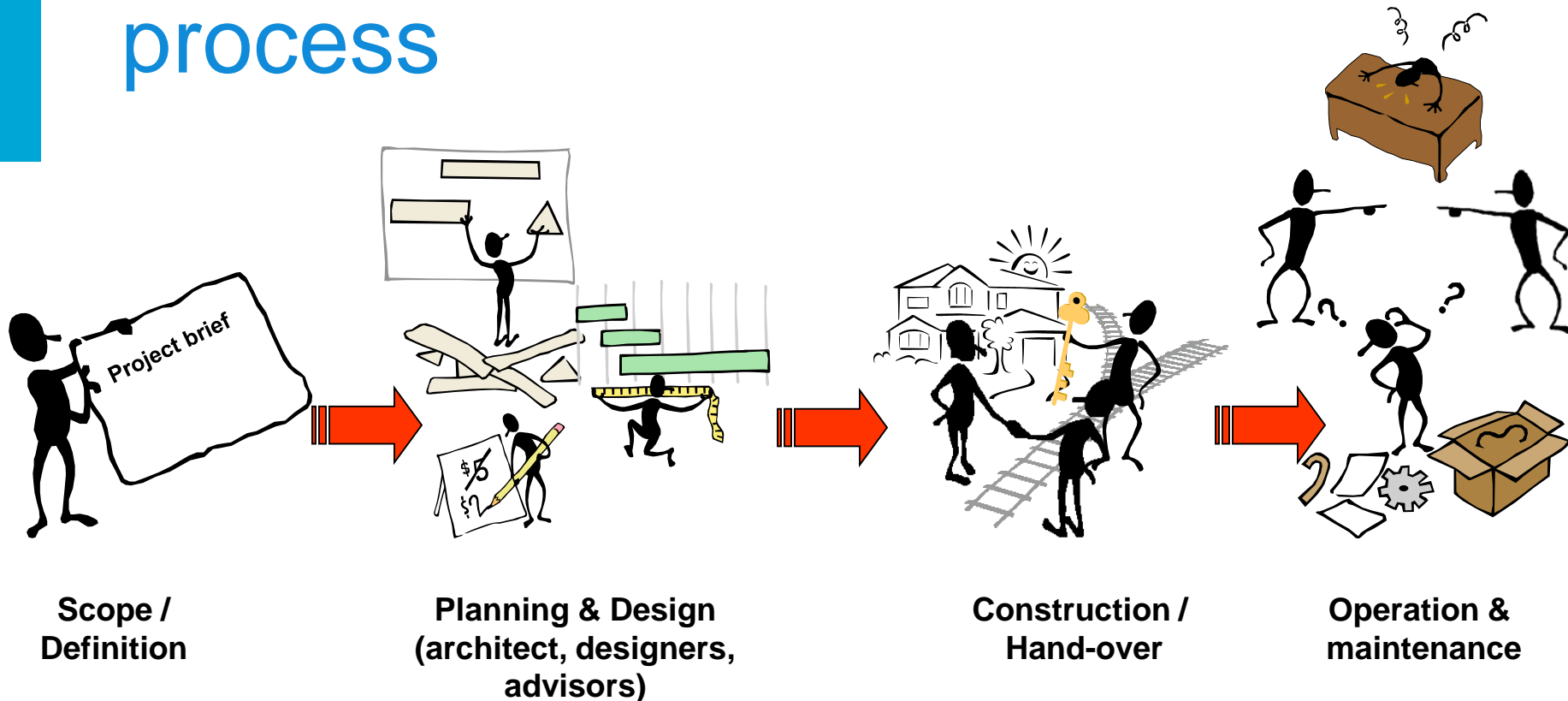
The Basket Building, Newark, Ohio

Definition “project delivery model”

The way in which tasks, responsibilities and risks are distributed among the participants of a construction or asset management process



The traditional construction process



Discipline/phase fragmentation
Effort-based remuneration
Lowest price

Back to core business

Integrated services

Quality & performance

Efficiency

Capex & Opex

Sustainability

**Change required:
new types of
collaboration**

Risk control

Flexibility

Innovation

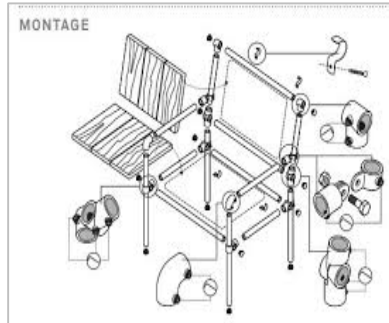
TCO / LCC

Changed collaboration approach

FROM



*Effort,
Lowest price*



*Tech specs & drawings
Contractors*



Sequential & fragmented



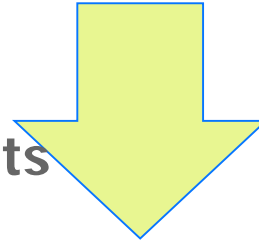
'We -They'

product

requirements

process

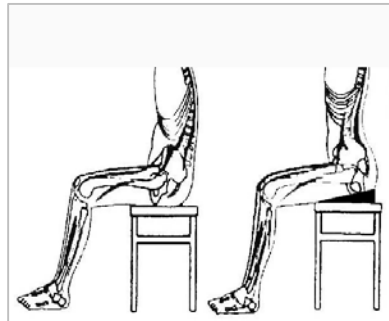
behaviour



TOWARDS



*Results,
Value for money*



*Functional specs
'integral service providers'*

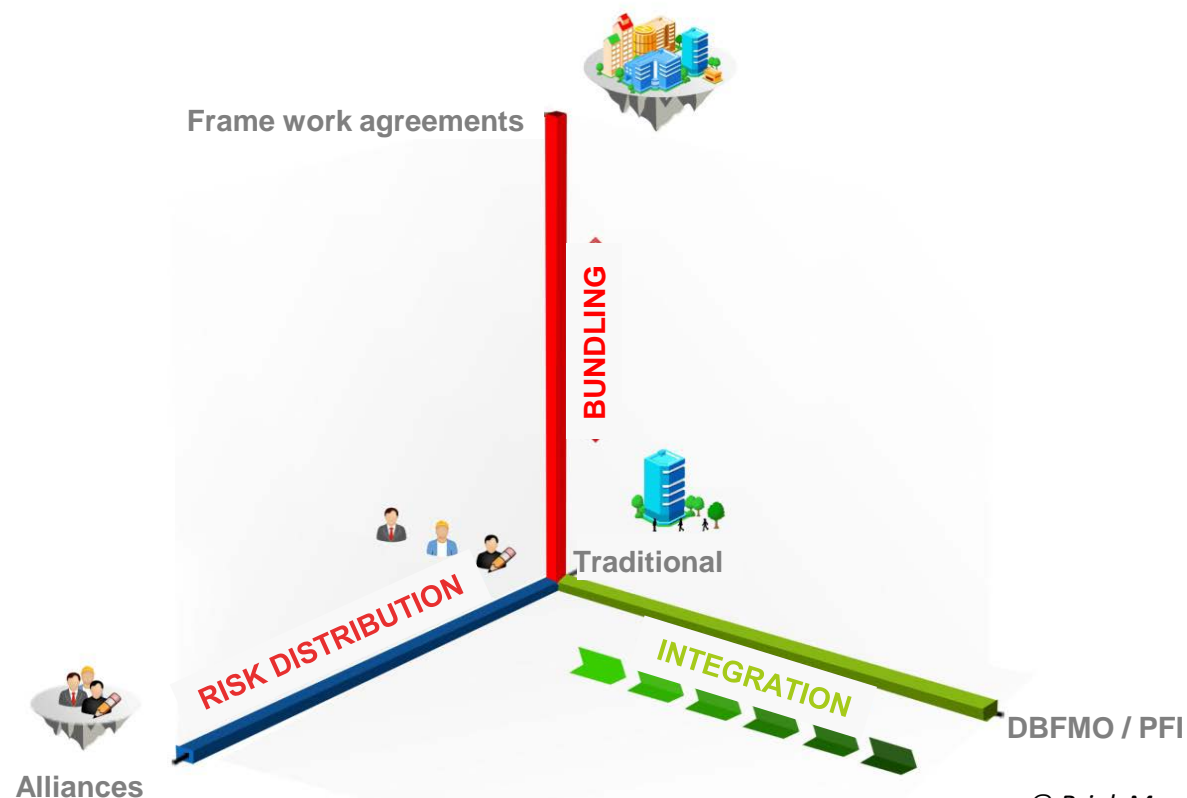


*Coherence,
Risk control,
Innovation*

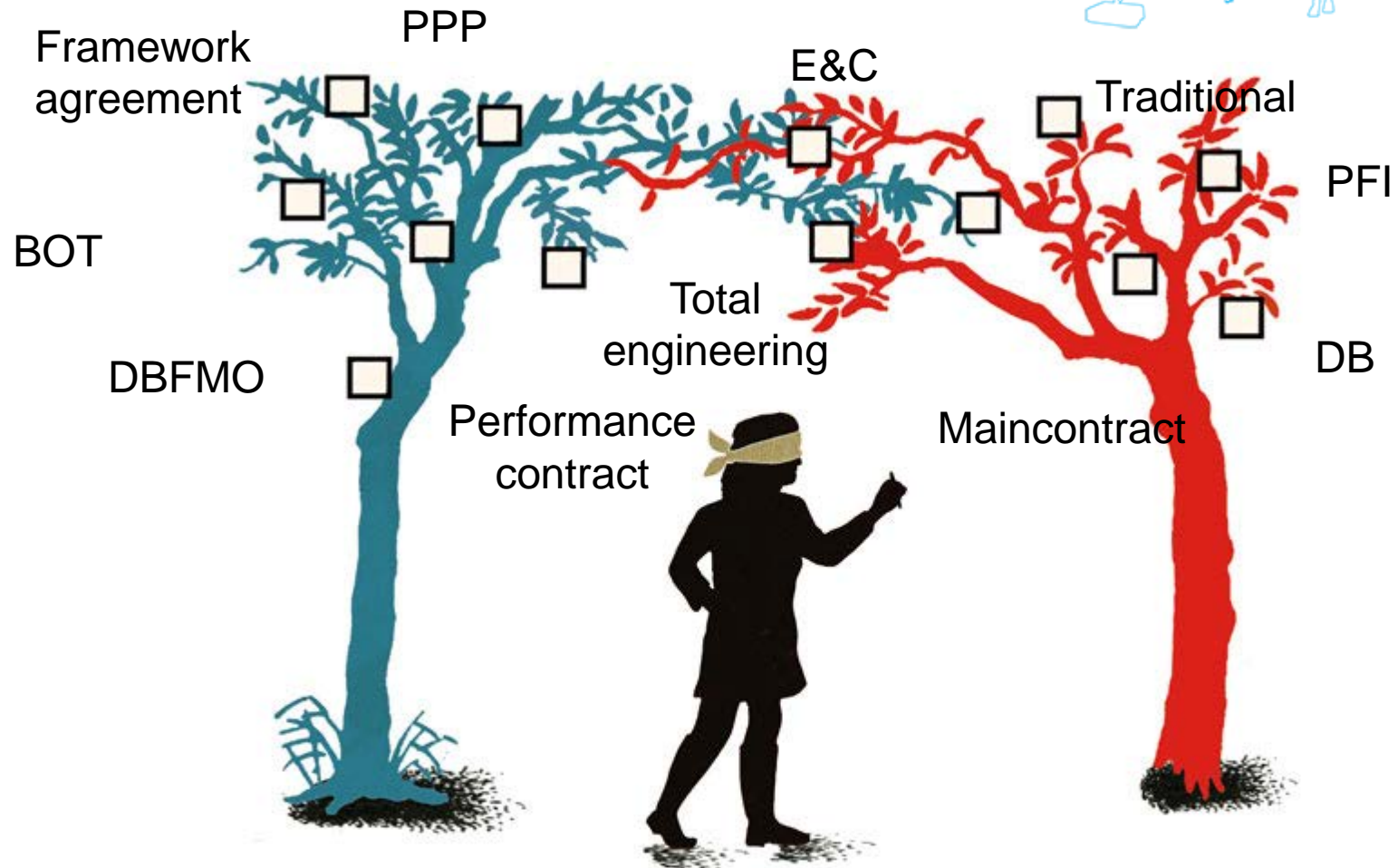


*Collaboration
Dialogue*

Three characteristics defining project delivery models



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Other options,

'New' project delivery methods

Type	Aim
Demand driven, e.g.	
Integrated contracts, maincontracts	Steering towards required end result; accommodation / infrastructure as a service; outsourcing of coordination tasks
ESCO's, DBFMO's	TCO / LCC (sustainability), financing and financial stimulus to market; outsourcing of coordination tasks
Frame work contracts / Purchasing collaboration	Benefits of scale and accumulation of expertise; outsourcing of coordination tasks
Partnerships / alliances / supply chain collaboration	Stream lining interests, collaborative development (client – supplier(s))
Best Value Procurement	Choosing the supplier with most expertise (project, risks, opportunities)
NEC3	Target contract: profit sharing when improving quality and/or reducing cost
Supply driven, e.g.	
(Catalogue of) Concepts	Standardized integral products, lean supply chain, collaborative development (supply chain)

Sustainable
procurement, some
examples from Dutch
practice

**Sweatshop
Free
T-shirts™**

CA15387 RN 103255

**Sustainable
Edition**

Made with
100% Certified

**Organic
Cotton**

Wash warm, do not
bleach, dry low.

Coton biologique
Laver à l'eau chaude
agent de blanchiment
sécher à basse temp.

Edición Sostenible
Hecho de 100%
Cotton Orgánico
agua tibia sin
bleach. Secar a
baja.

Stroomversnelling: co-creating a repeatable sustainable renovation concept



- Co-creation:
Housing associations + contractors
- Refurbishment + maintenance + energy
- One type of house, same sustainability goals
- Repetition is key -> Development of renovation concepts



Integrated contracts (MOE / DBFMO / ESCO's)



- TCO -> NPV
- Long term contract, life cycle integration
- Performance based remuneration, output oriented
- Design focussing on exploitation phase

Three types:

- Design – Build/Renovate – Maintain – Energy
- Energy Service contract
- Maintain – Operate incl. energy

Sustainable portfolio of Municipality of Eindhoven



- 8 Buildings (portfolio)
- Co-creation
- TCO -> Value case: workplace, sustainability, efficiency
- Design thinking
- Dialogue procedure
- BVP: supplier = expert
- 10 year alliance
- DBM

Circular Alliander offices

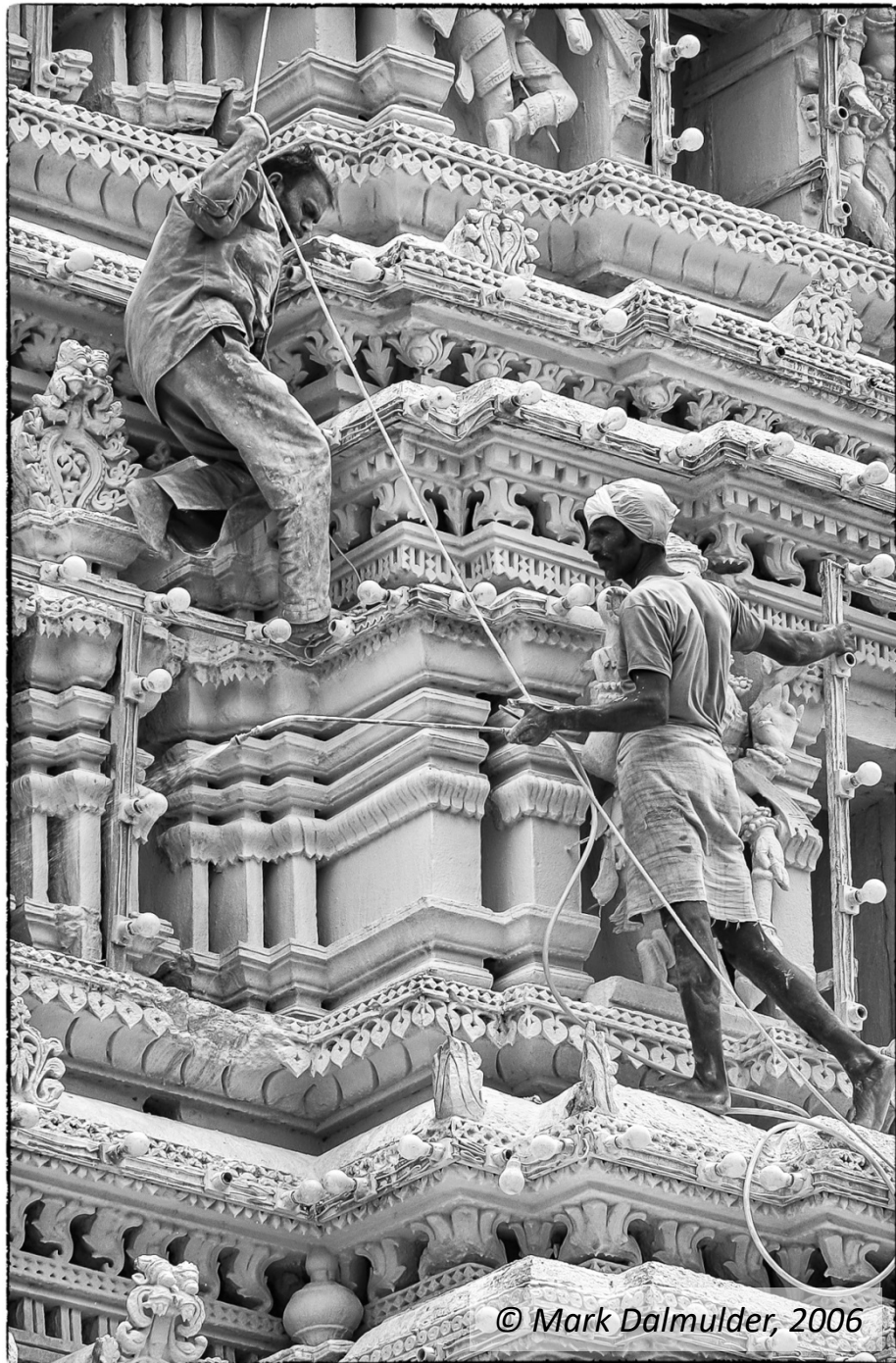


- Renovation
- Co-creation in dialogue process
- TCO
- Market consultation
- 80% reused materials
- Energy positive
- Material passport

Temporary court of justice: Flexibility & circularity in DBMR



- New construction
- DBMR (Design Build Maintain & Remove)
- TCO
- Temporary building
- Flexibility as 'the' awarding criterium: reduction of waste & maximising end value
- Use of 'donor materials'



Sustainable and circular construction requires:

- Suitable delivery models
- Value based long term contracts
- Output specs future use
- Designing process next to product
- Supply chain collaboration & partnering
- Stock instead of project
- Existing stock instead of new buildings
- Organising learning process

Interested?

For publications (published and yet to come):

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Thank you