



INTEROPERABILITY - A Growing Understanding and Momentum *Update from the United States.....*



International Conference for Government and Industry
1 June 2005 Oslo, Norway

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Chair – IAI-NA Council -National Institute of Building Sciences

Agenda



- Interoperability
- Updates from:
NIST
CURT
AIA



"It's the Data Stupid!"

- ◆ Our world is now data/information-centric, and fast becoming more-so.
- ◆ As more facility work is out-sourced it becomes increasingly important for owner and agencies to "own" their own data.

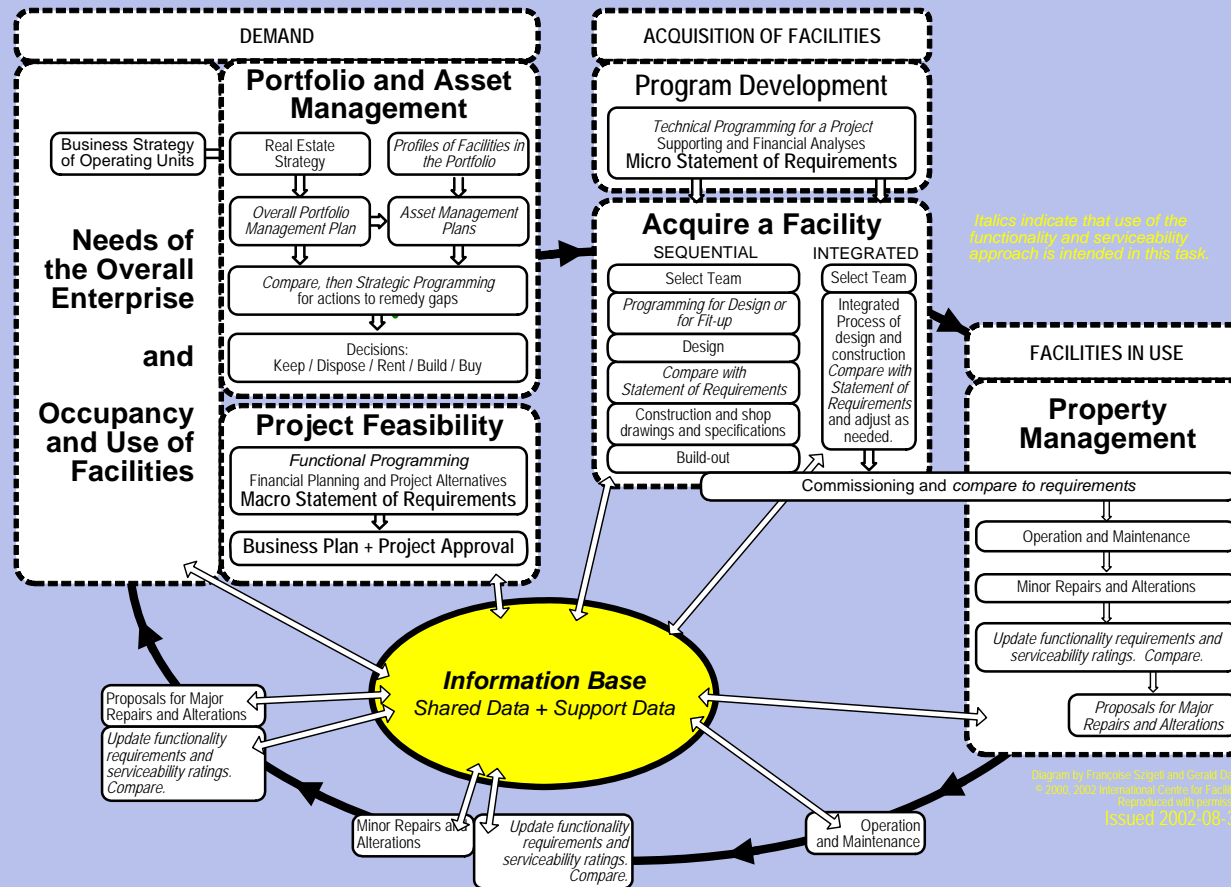
◆ *But today we have Stupid Data !!*

What is interoperability?

...the dynamic exchange of accurate, useful information on the built environment among all members of the building community throughout the life-cycle of facilities.



Must deal with Lifecycle



Life Cycle of Facilities: Main Phases

Updates from US - NIST Study



◆ National Institute of Standards and Technology

Updates from US - NIST Study



◆ Cost Analysis of Inadequate Interoperability in the US Capital Facilities Industry - August 2004

Objective: to identify and estimate the efficiency losses in the US capital facilities industry resulting from inadequate interoperability

NIST GCR 04-867

A Definition of Interoperability

NIST

- "the ability to manage and communicate electronic product and project data between collaborating firms' and within individual companies' design, construction, maintenance, and business process systems."

Updates from US - NIST Study



◆ Costs to Stakeholders -

◆ Architects/Engineers	\$ 1,170,000,000
◆ General Contractors	\$ 1,802,000,000
◆ Specialty Trades	\$ 2,204,000,000
◆ Owner/Operators	\$10,658,000,000
◆ TOTAL	\$15,824,000,000

Base = 2002

Updates from US - NIST Study



◆ 4.25% of total value of 2002
construction

wasted!!

Breaking these Costs Down by Project.....

- ◆ \$5.93 /sf initial cost burden through planning, engineering, design, and construction phases
- ◆ \$0.23 /sf annual cost burden on maintenance and operations throughout life of facility
- ◆ In other words, for a hypothetical 200,000 sf facility, inadequate interoperability adds
 - \$1.2 million to the initial cost, and
 - \$1.3 million dollars to the maintenance and operations cost of the facility over a 30 year lifecycle

Source : Ian Howell - Newforma

Updates from US - NIST Study



◆ ENR Editorial dated 16 August 2004

“Owners Need to Demand
Greater Interoperability”

Updates from US - CURT



◆ Construction Users' Roundtable

- 48 major US Owners – many multi-national

Updates from US - CURT



- ◆ A/E Productivity Subcommittee -
White Paper

The Construction Users Roundtable

Committee Composition

AEC side of Industry (not EPC)

a who's who:

GSA/Intel

AIA/ASEC/AGC/CSI/IAI/FIATECH

A/E/GC leaders

Software Providers

The Construction Users Roundtable

Committee Charge

Initial Focus - A/E Document Quality

but this is a symptom of a bigger issue

The Construction Users Roundtable

Vision -

Owners demand behavior

Virtual design and construction becomes the standard approach

Information created by the collaborative team flows seamlessly:

player to player - value added

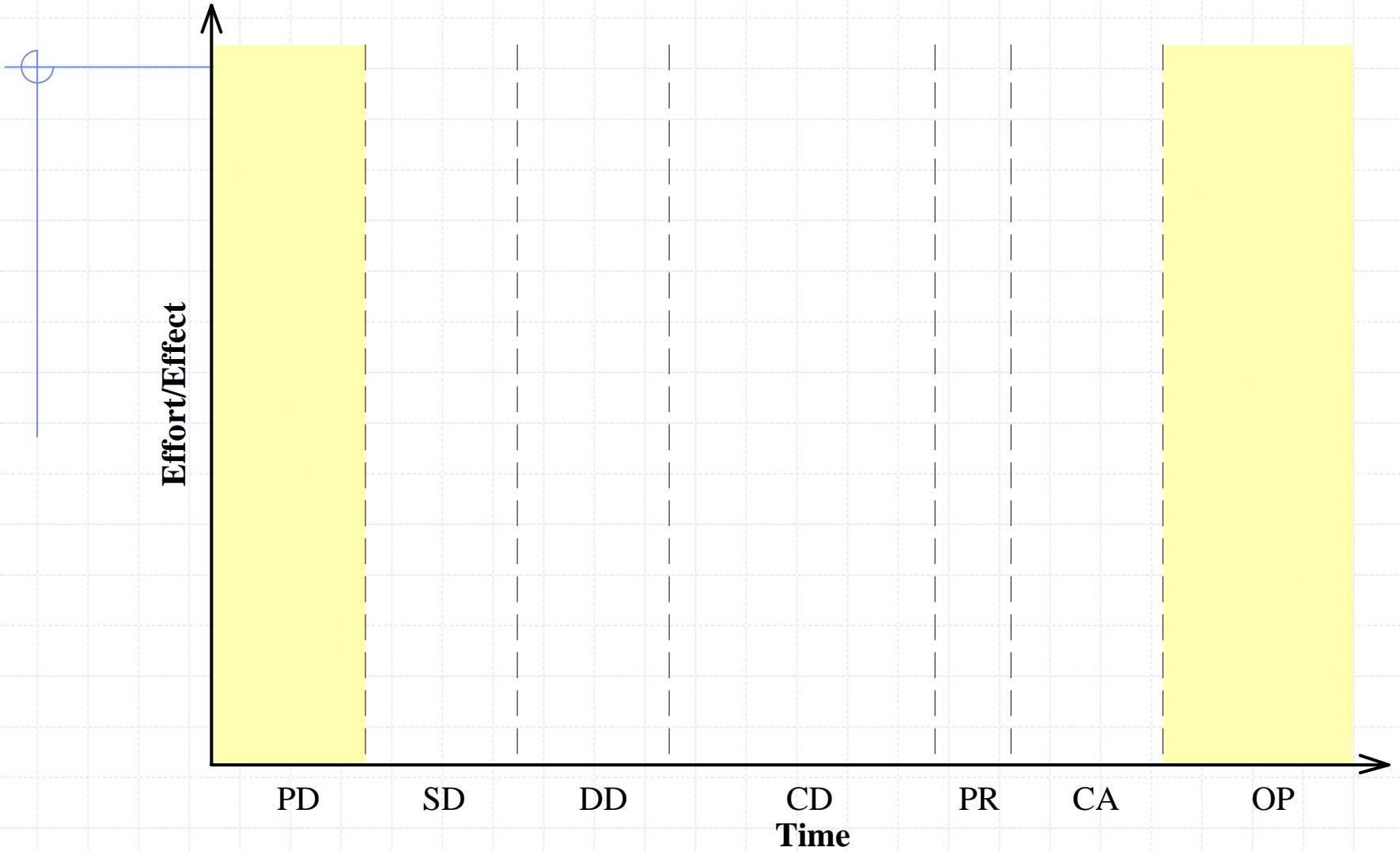
within life cycle loop

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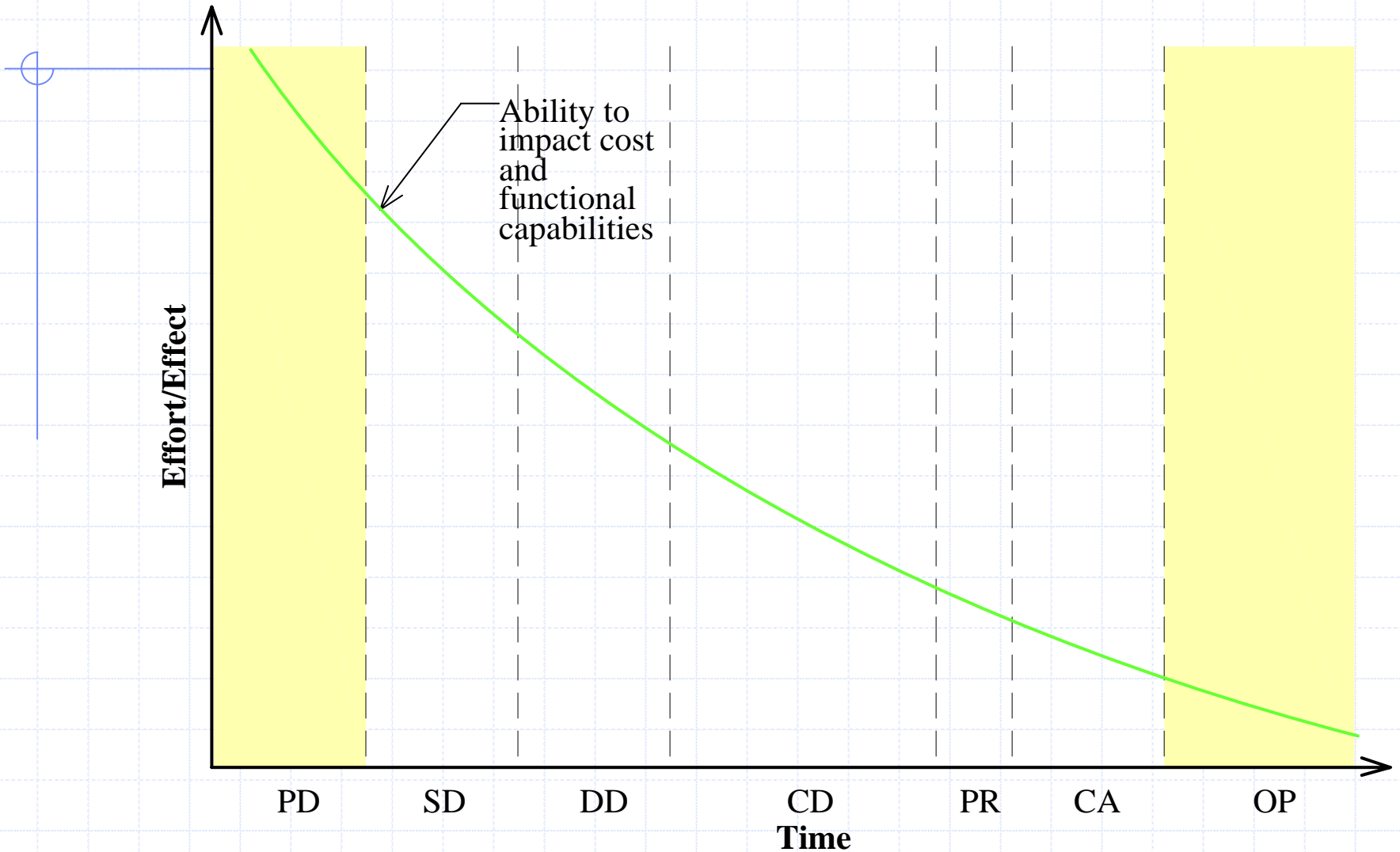


Vision - Diagram

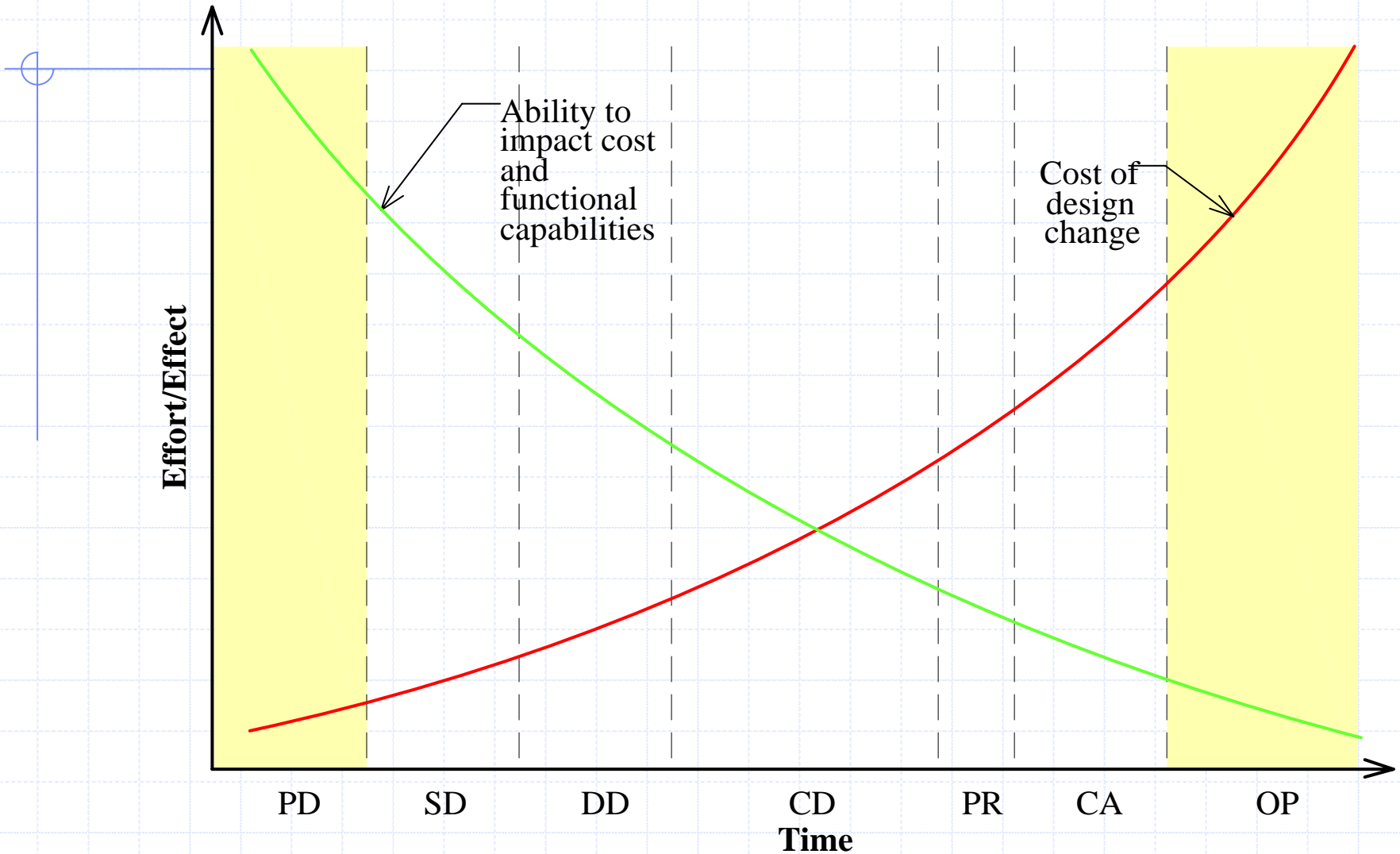
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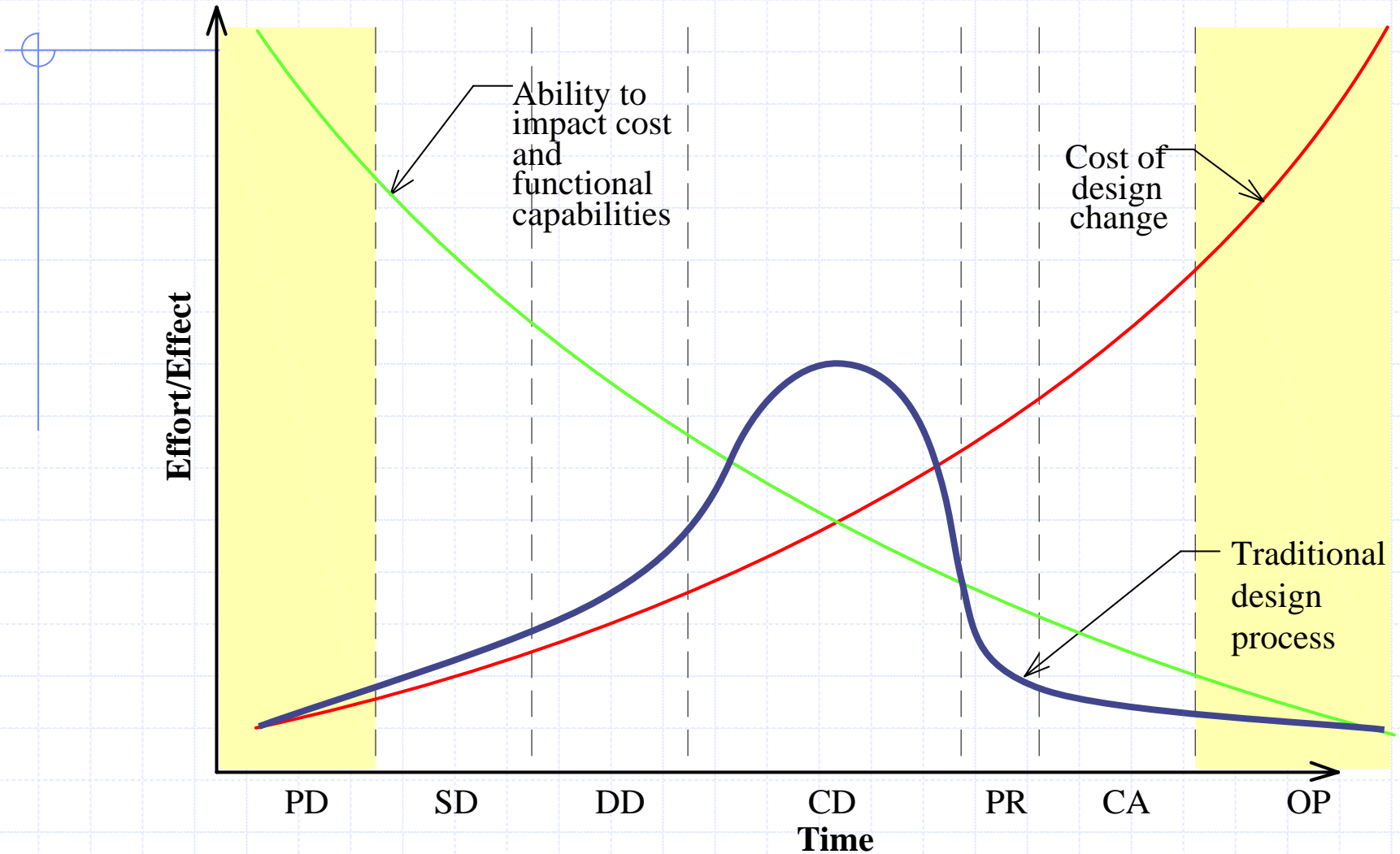
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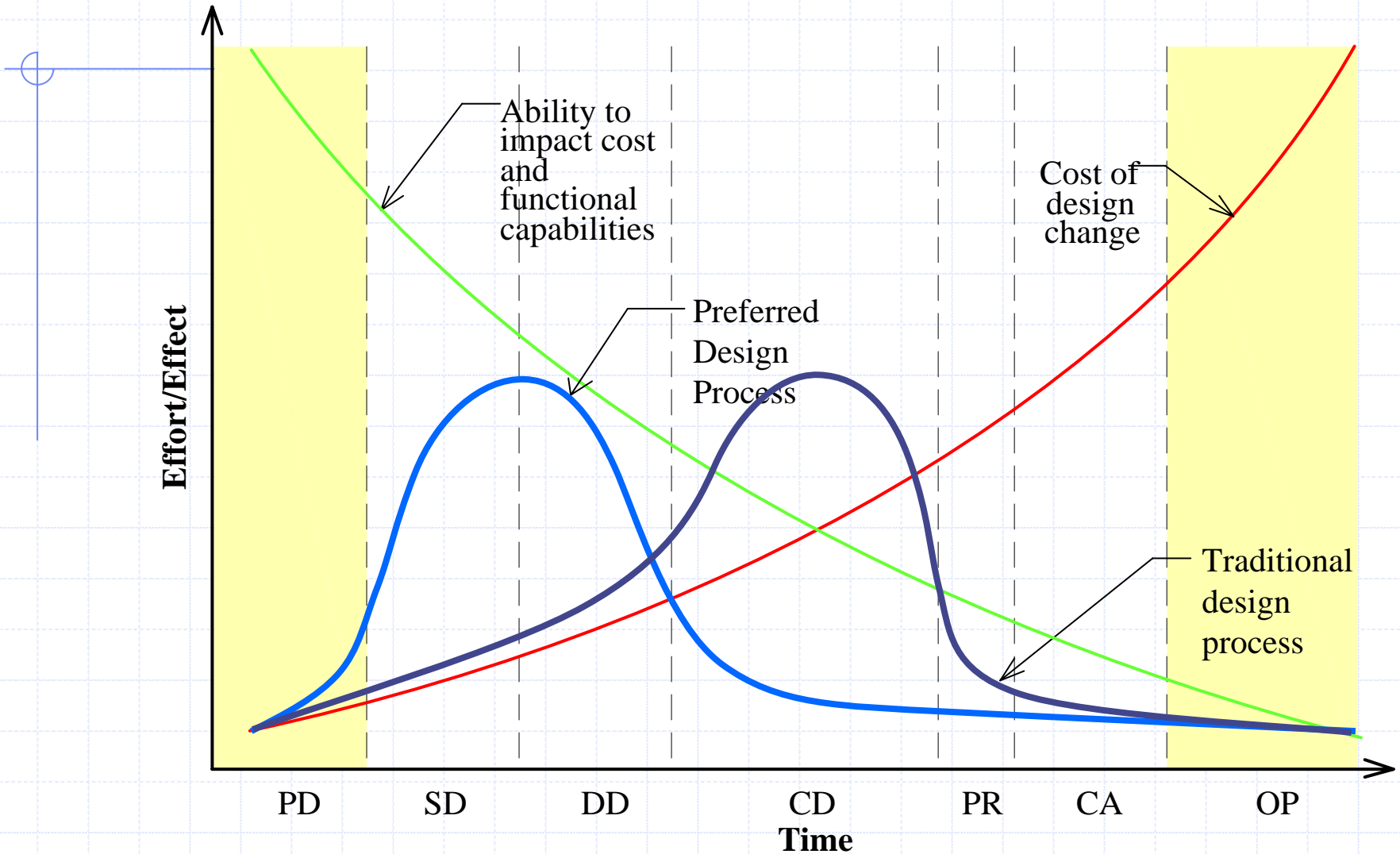
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Recommendations:

- 1. Owner Leadership**
- 2. Integrated Project Structure**
- 3. Open Information Sharing**
- 4. Virtual Building Models**

Action - Next Steps for CURT

- 1. Adopted this vision**
- 2. Supporting efforts to define frameworks & processes**
- 3. Identifying and underwriting pilot projects to test and validate**

Updates from US - AIA



◆ The American Institute of Architects

- Annual Convention – May 2005
- Largest gathering in the AIA's History
 - ◆ 24,000 + AIA members attended (over 1/3 of all members)
- Friday Keynote focused exclusively on Interoperability
 - ◆ Building Information Model

Updates from US - AIA



◆ Panel Warns – “Get It or Quit It”

- ◆ Bill Tibbitt
CURT President
Owner
Johnson & Johnson
- ◆ Patrick MacLeamy
IAI
CEO of HOK
- ◆ Phil Bernstein
Change required
Software Vendor – Autodesk
- ◆ Joe Burns
Architect & Structural
American Institute of Steel Construction successes
- ◆ Thom Mayne
“Star Architect”
2005 Pritzker



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