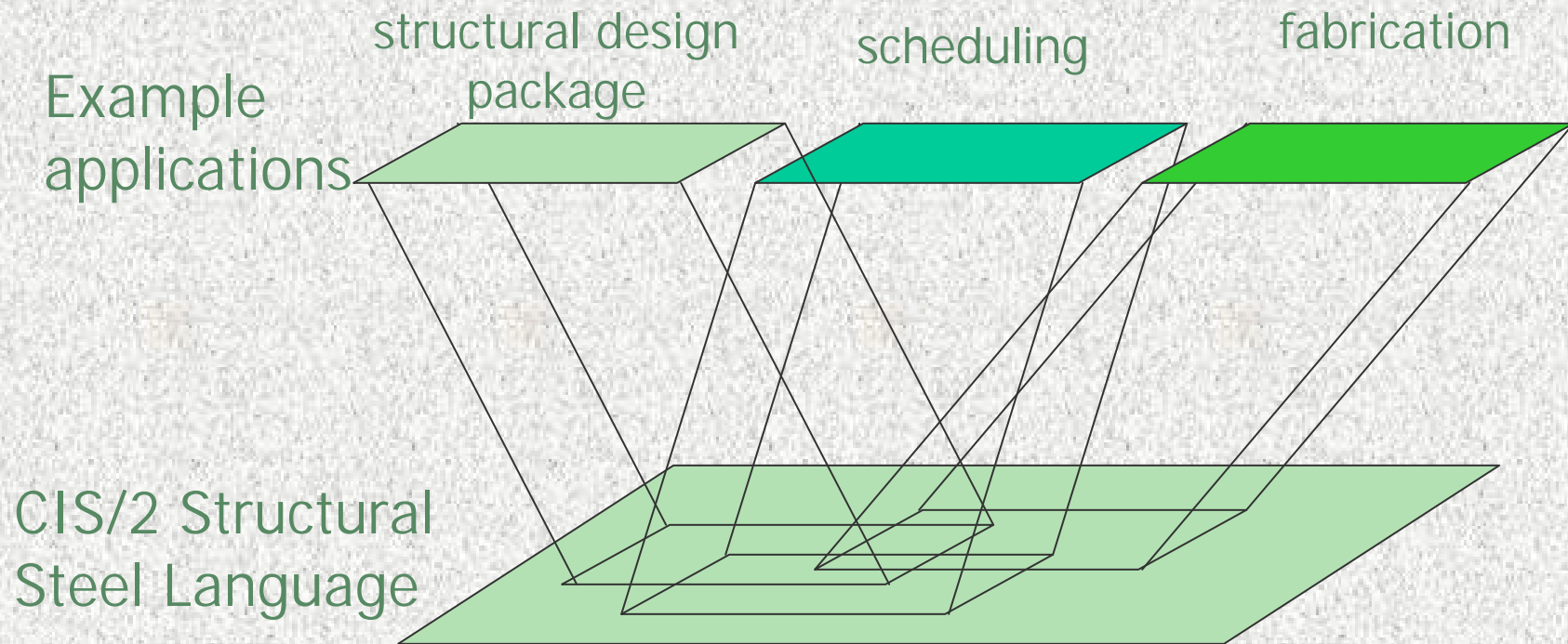# WHAT DOES CIS/2 MEAN
TO THE
STEEL DESIGN AND FABRICATION INDUSTRY?

By Chuck Eastman, Professor
leader of the AISC CIS/2 support effort
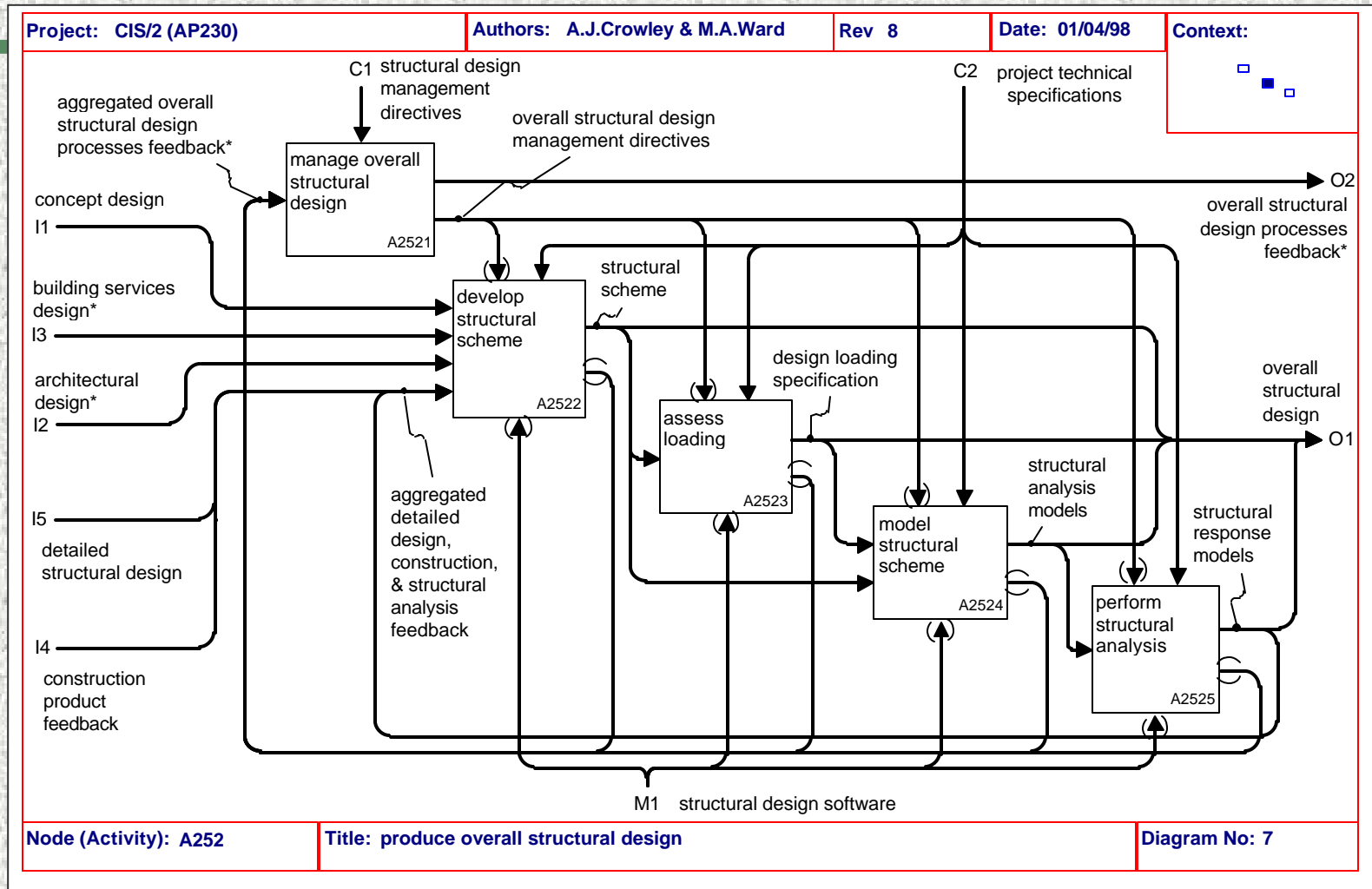Georgia Institute of Technology

OVERVIEW

- What is CIS/2?
- How does it help the steel industry
  - designers/contractors?
  - fabricators?
  - erectors?

- Why your firm should consider using CIS/2 on a project

What is CIS/2?

Example applications

structural design package

scheduling

fabrication

CIS/2 Structural Steel Language

CIS/2 covers all information needed for design, analysis, procurement, fabrication planning and fabrication automation

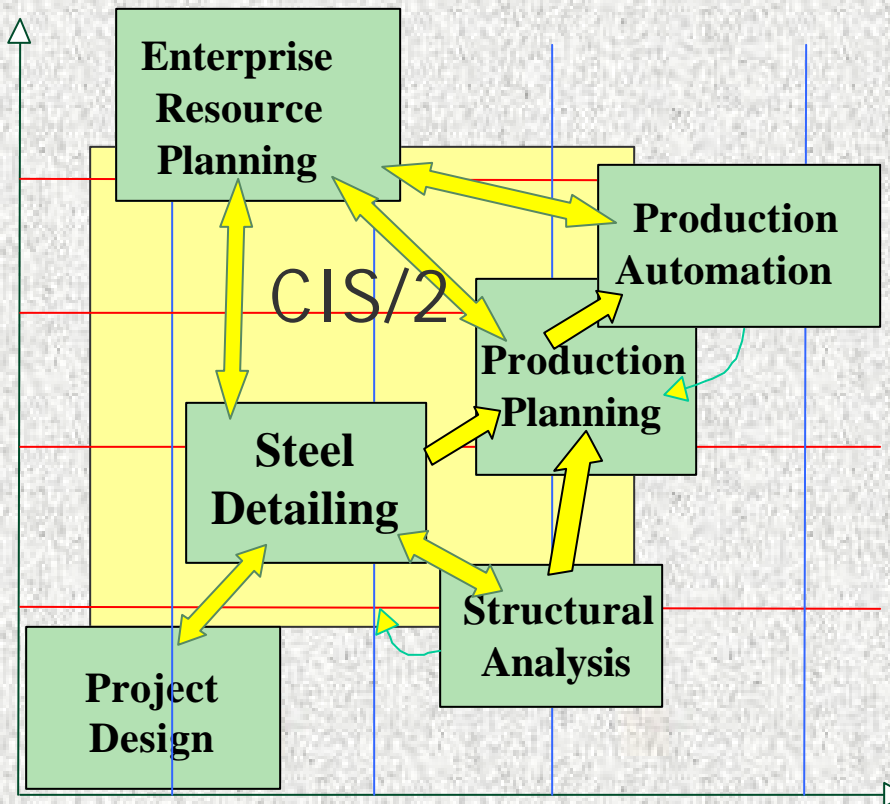# CIS/2 Based on a Detailed Process Model of Structural Steel Activities

C1 structural design management directives

overall structural design management directives

C2 project technical specifications

aggregated overall structural design processes feedback*

concept design

I1

manage overall structural design

A2521

O2

overall structural design processes feedback*

building services design*

I3

develop structural scheme

A2522

structural scheme

design loading specification

assess loading

A2523

architectural design*

I2

I5

detailed structural design

aggregated detailed design, construction, & structural analysis feedback

model structural scheme

A2524

structural analysis models

overall structural design

O1

structural response models

I4

construction product feedback

perform structural analysis

A2525

M1 structural design software

Node (Activity): A252 | **Title: produce overall structural design** | **Diagram No: 7**

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What Does CIS/2 Do?

CIS/2 represents information to automate steel design/fabrication at the project level
- allows correctness checking against other systems
- allows fully detailed fabrication planning
- interfaces to structural analysis
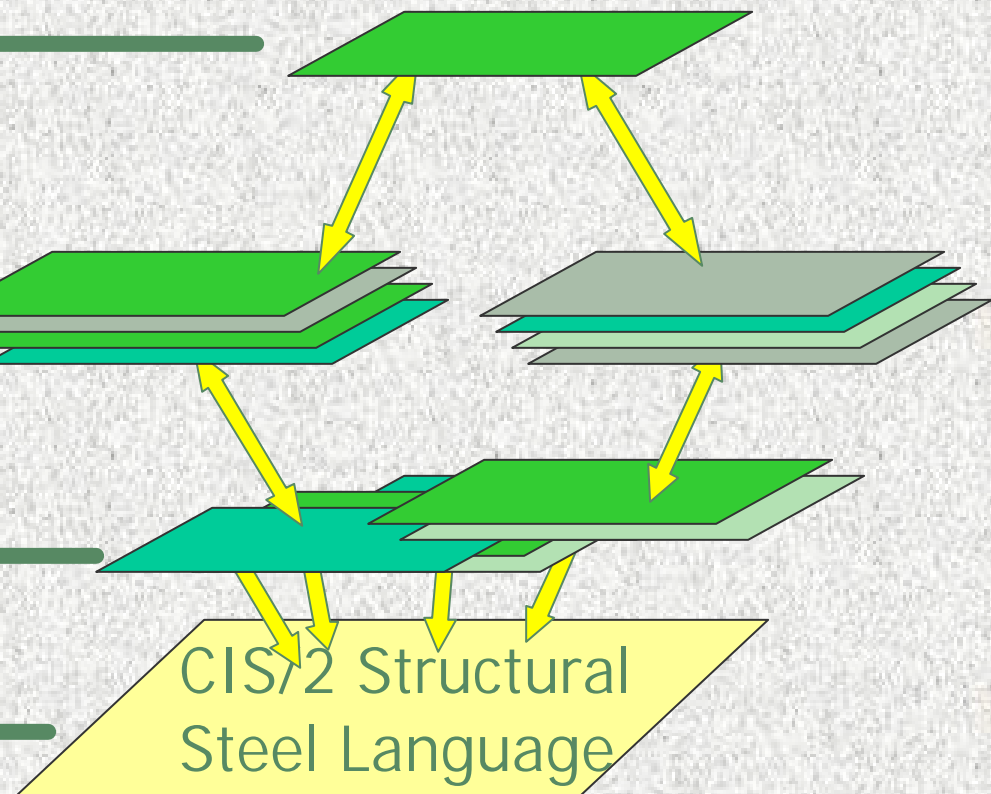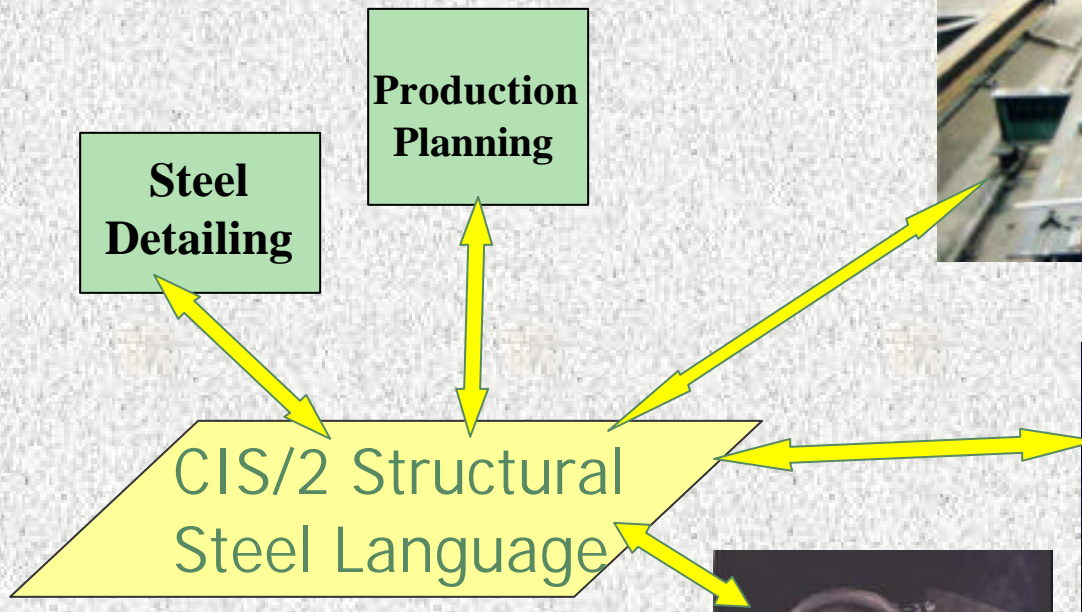- interfaces to ERP and scheduling
- supports NC fabrication

Enterprise Resource Planning

CIS/2

Production Automation

Production Planning

Steel Detailing

Structural Analysis

Project Design

The Beneficiaries of CIS/2

Client/owners

design engineers
fabricators erectors

software developers

industry
standard

CIS/2 Structural
Steel Language

What does CIS/2 mean to a design or fabrication shop?

Production Planning

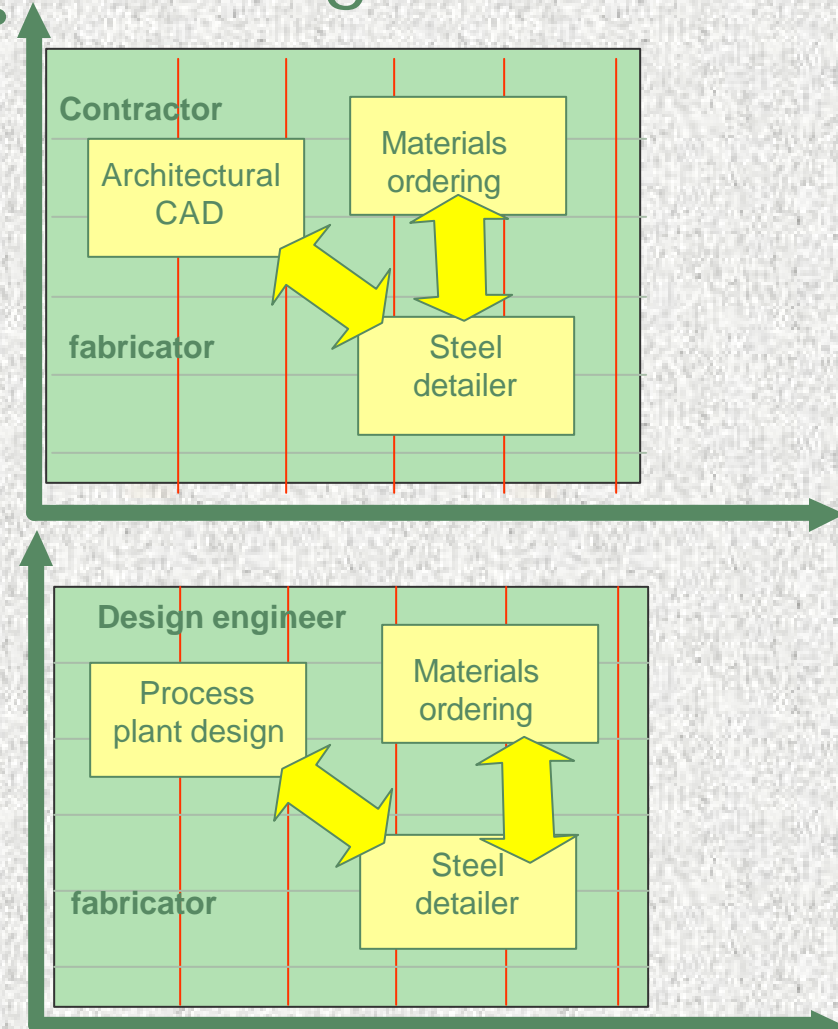**Steel Detailing**

CIS/2 Structural Steel Language

•Fast design coordination
•Faster detailing/engineering
•fabrication automation

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A critical information flow cluster :
pass-off between external design and fabricator

• Faster coordination/ conflict resolution across systems

• Fewer iterations

• Start shop drawings during bidding

• Order materials upon contract signing

Contractor

Architectural CAD

Materials ordering

fabricator

Steel detailer

Design engineer

Process plant design

Materials ordering

fabricator
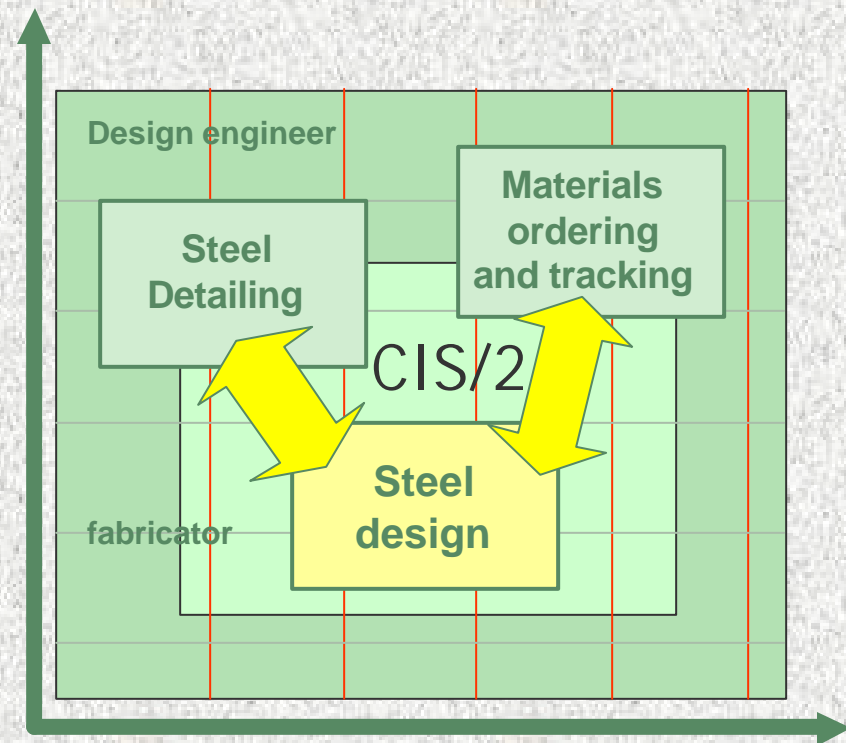
Steel detailer

Relevant Systems for
Design Engineers/Contractors

Relevant Design Systems:
- Intergraph Frameworks+
- Bentley Structural Triforma

Relevant Materials Ordering and ERP Systems:
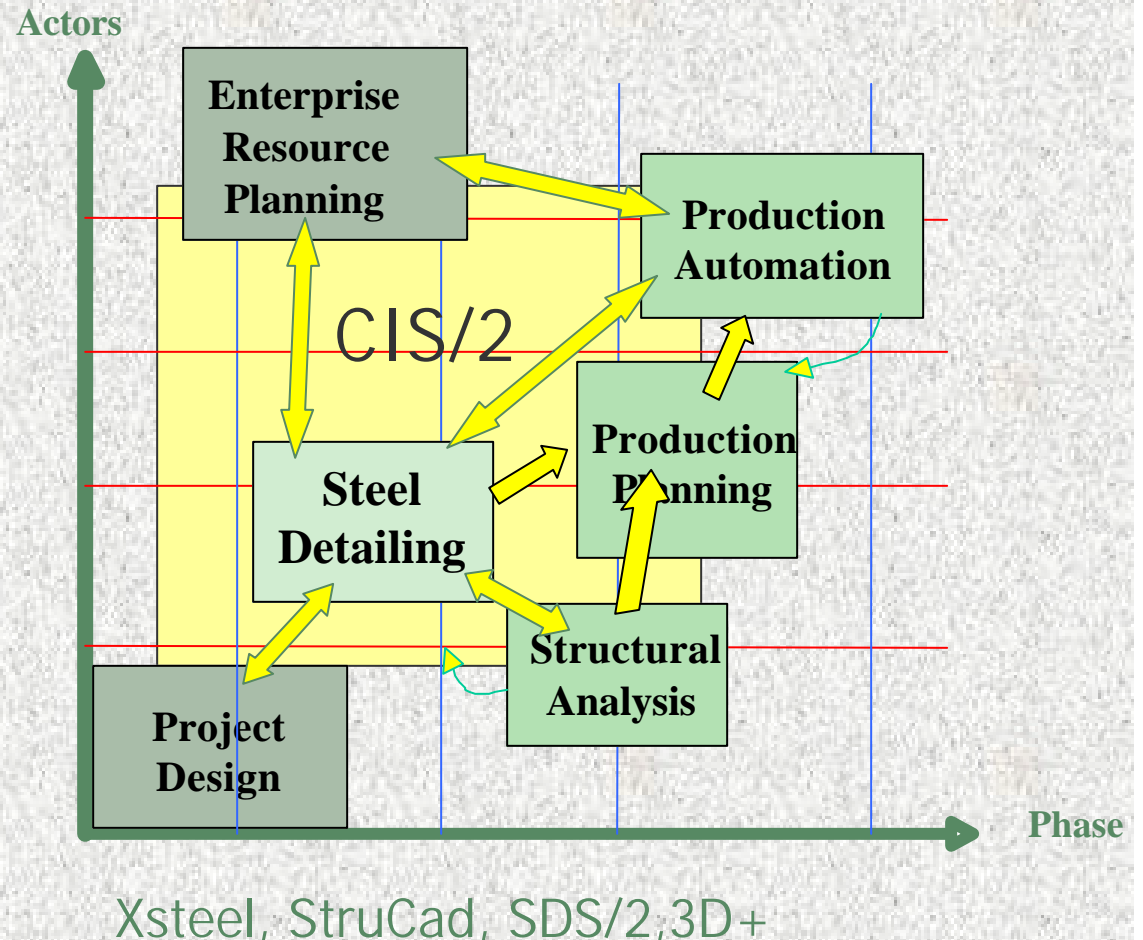- Fabtrol
- BAAN
- J.D. Edwards

Design engineer

Steel Detailing

Materials ordering and tracking

CIS/2

Steel design

fabricator

Benefits of CIS/2 for Fabricators

CIS/2 represents information to automate steel fabrication

• allows fully detailed fabrication model

• interfaces from structural analysis for automatic joint detailing

•supports NC fabrication:

- •bending,
- •cutting,
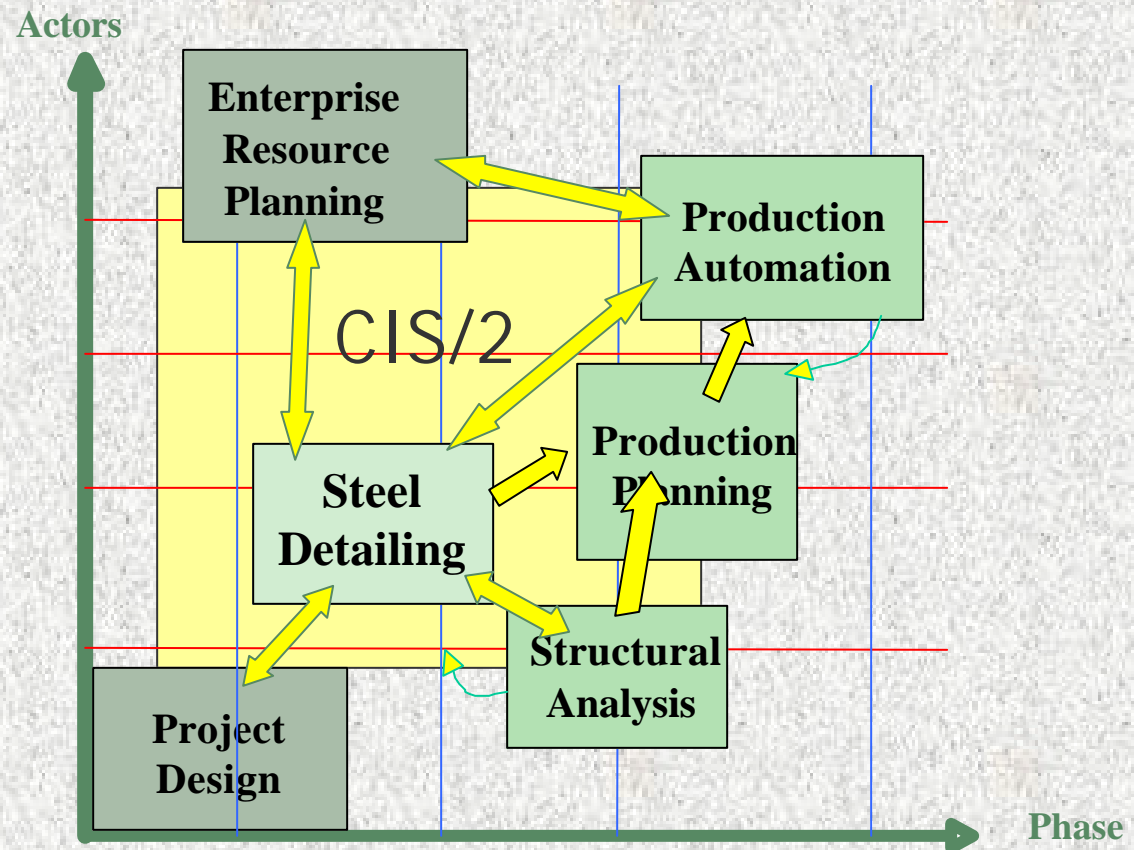- •drilling,
- •welding,
- •crane movements

Actors

Enterprise Resource Planning

Production Automation

CIS/2

Steel Detailing

Production Planning

Project Design

Structural Analysis

Phase

Xsteel, StruCad, SDS/2, 3D+

Benefits of CIS/2 for Fabricators

Relevant Detailing Systems:
- Design Data SDS/2
- Tekla Xsteel
- CSC 3D+

Actors

Enterprise Resource Planning

Production Automation

CIS/2

Production Planning

Steel Detailing

Structural Analysis

Project Design

Phase

Xsteel, StruCad, SDS/2, 3D+

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Summary

CIS/2 is a new technology that can provide important benefits to your company and to structural steel construction in general

CIS/2 supports business plan re-engineering, at the design, procurement, fabrication planning, fabrication levels

- lower costs

- higher safety (through automation)

- faster design, production