



The Marmaray Project – and it's Management

10th May 2005



The Speaker

- Steen Lykke, Project Manager,
Avrasyaconsult Joint Venture
 - 27 years experience civil/structural works
 - 13 years in tunneling works
- Pacific Consultant International (PCI)





Presentation

Overview



Overview

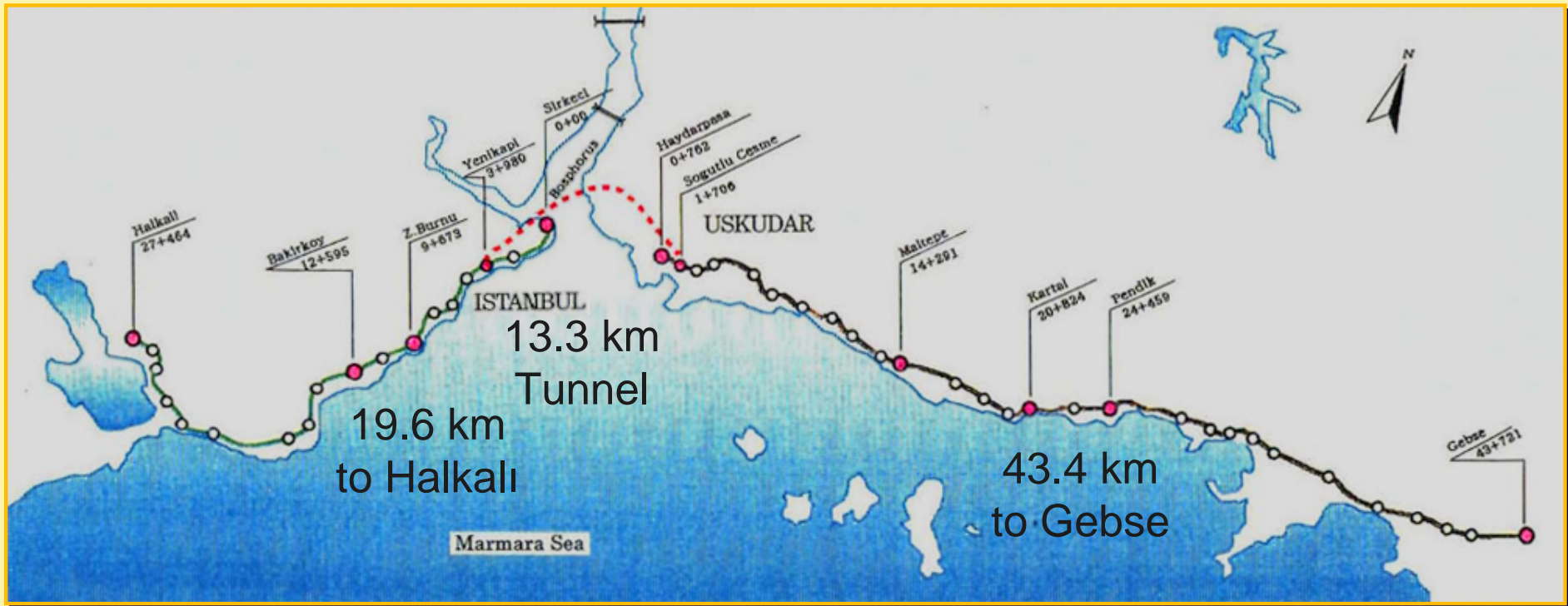
- Introduction to the Project
- Special Challenges
- Management and Organisation
- Contract strategies



Introduction to the Project



The Marmaray Project





The Project Logo



[*www.marmaray.com*](http://www.marmaray.com)

Marmaray



Crossing Bosphorus



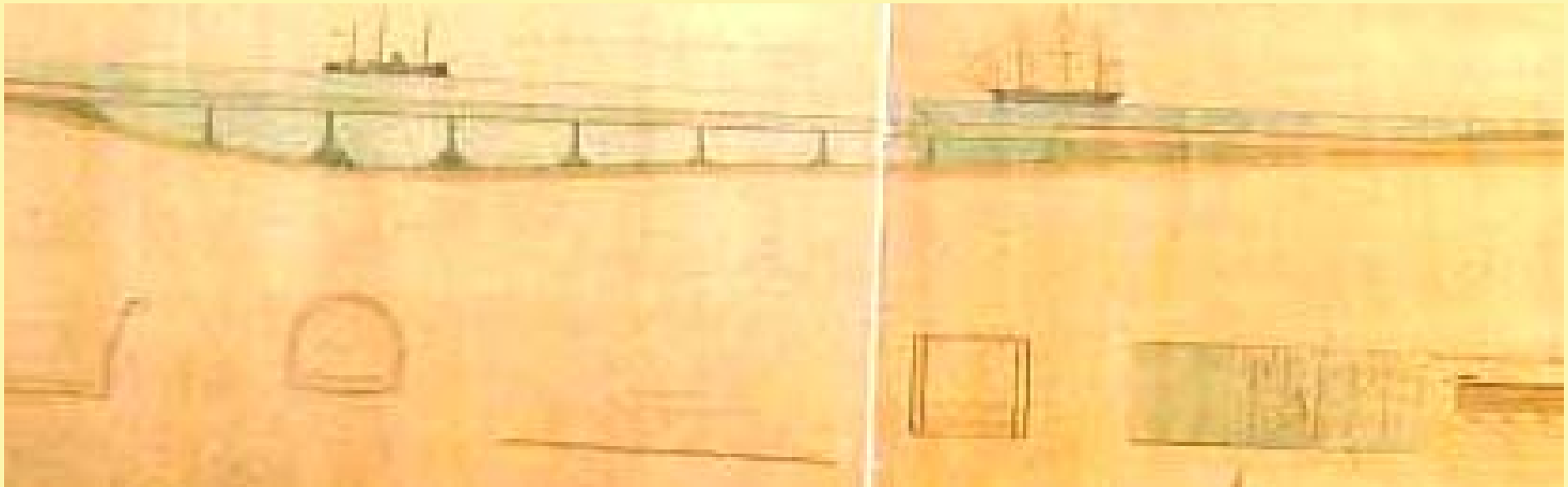


The Visions

Historic developments of crossing

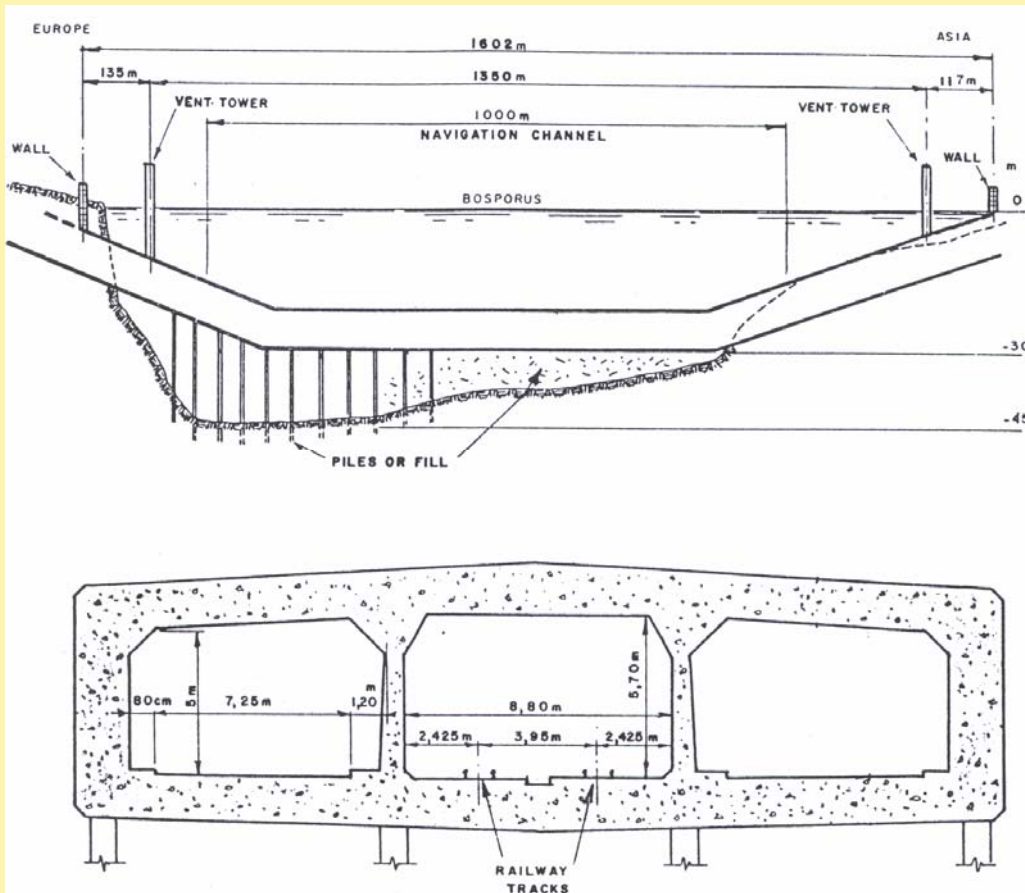


The Vision 1860

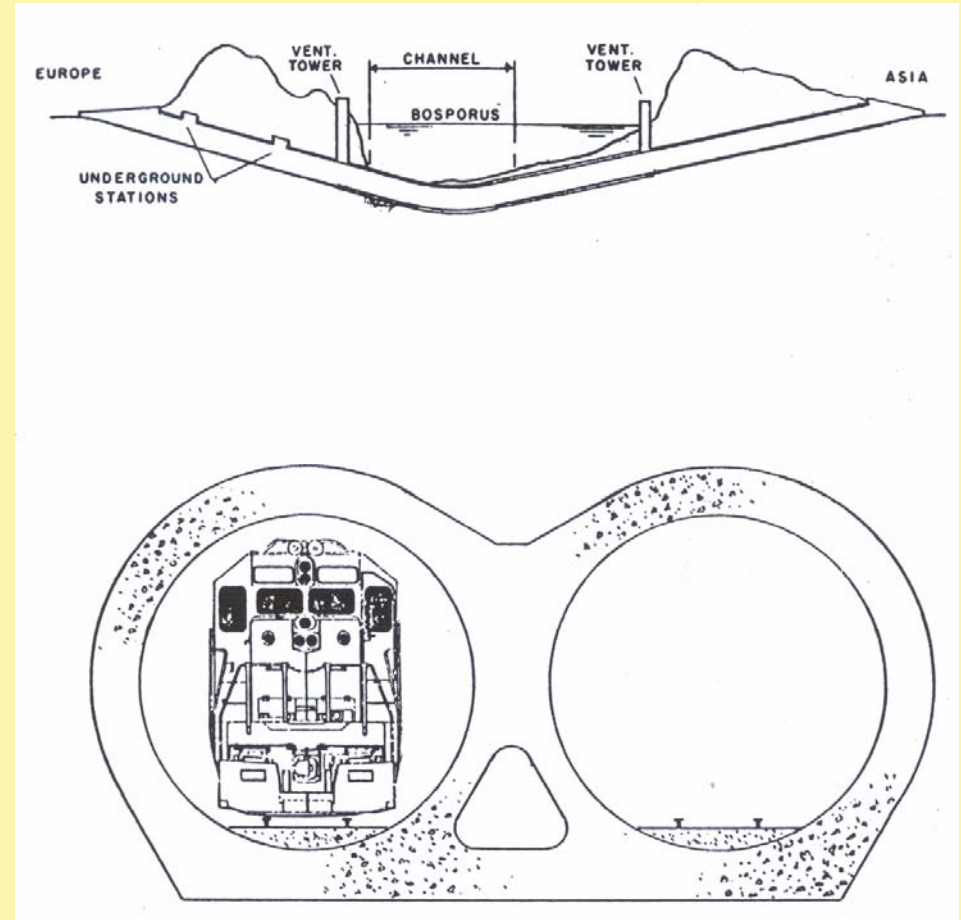




Per Hall Vision 1976-77



Road-Rail on piles or fill, 1976



Rail only, 1977



IMMERSED TUBE TUNNEL 1 770m

BORED TUNNEL 500m

MEAN SEA LEVEL

EXISTING SEABED

ORIGINAL TUBAN PROFILE

20m KARL OYUNLU (TBM) TO ROCK CONTACT

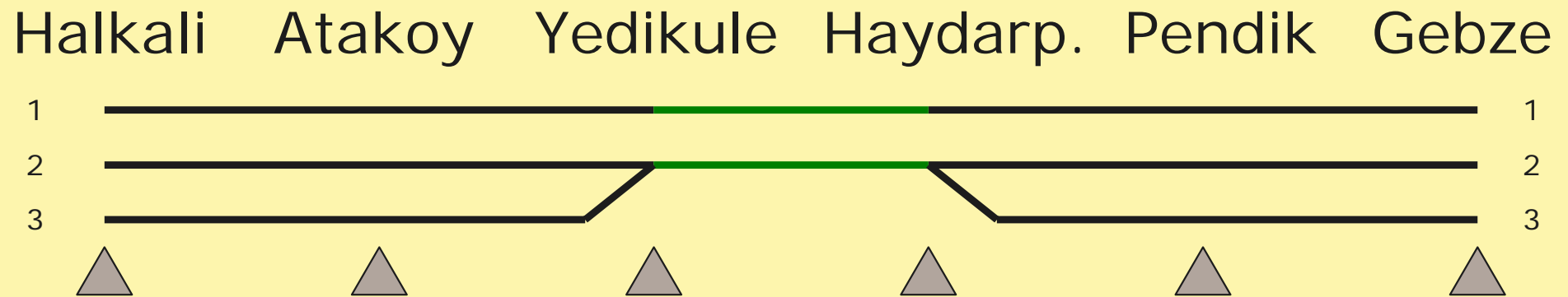
KARL TABAKASI

ÜSKÜDAR (DOĞU YÖNÜNDEN)

BOĞAZİÇİ (KARL OYUNLU)



Schematics of Project



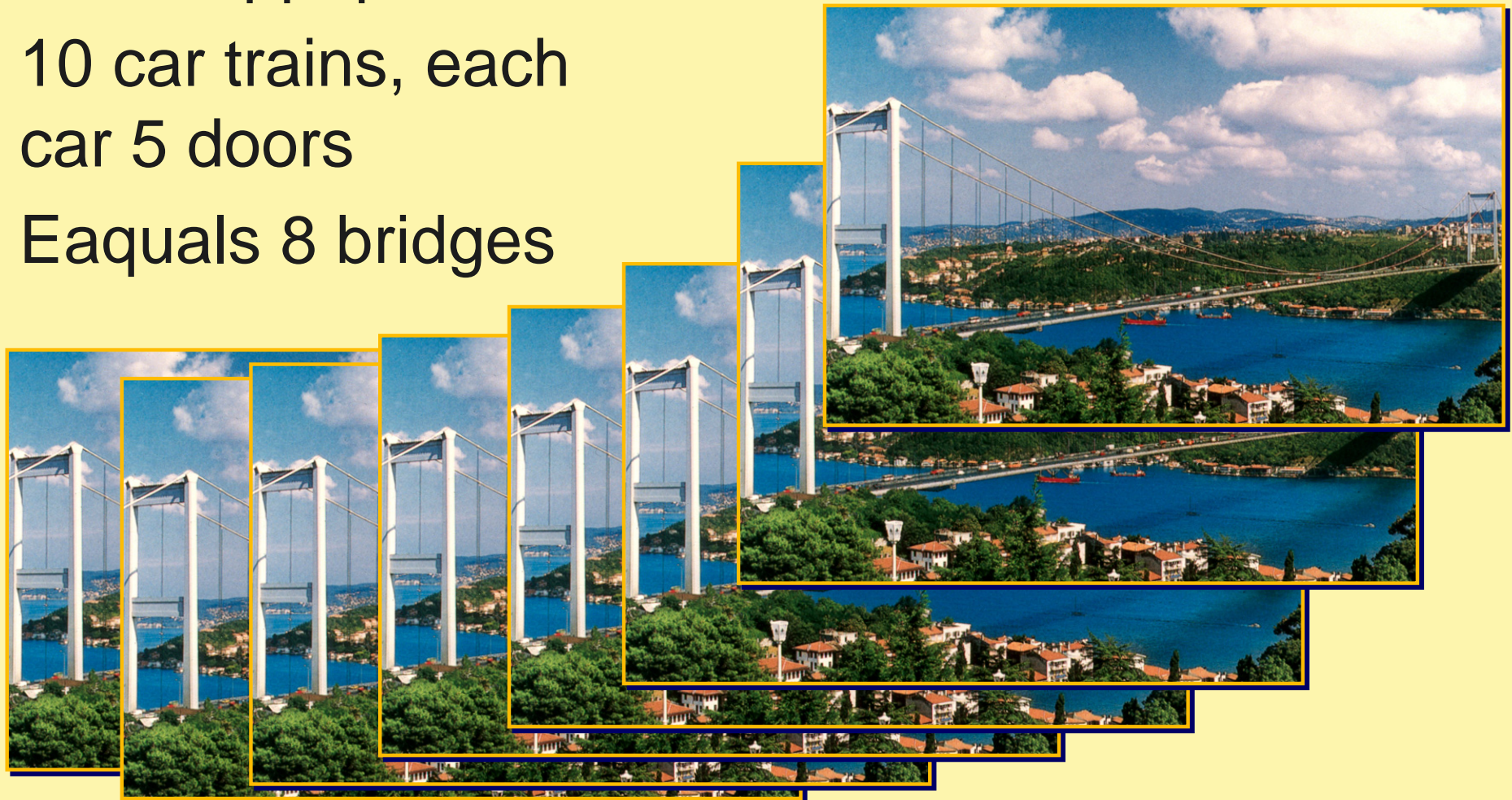
- Black: on surface
- Green: sub-surface





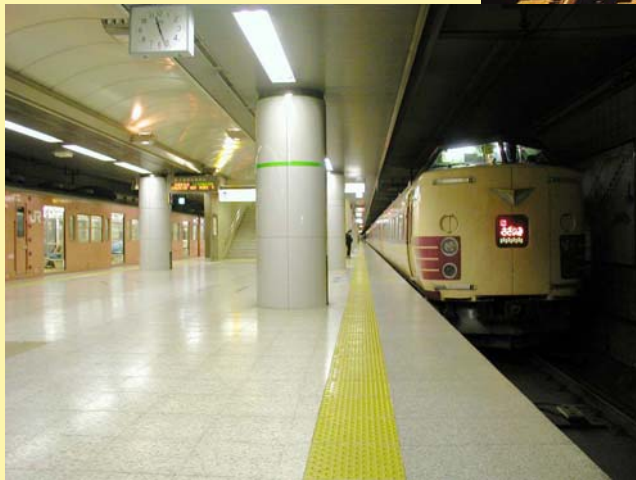
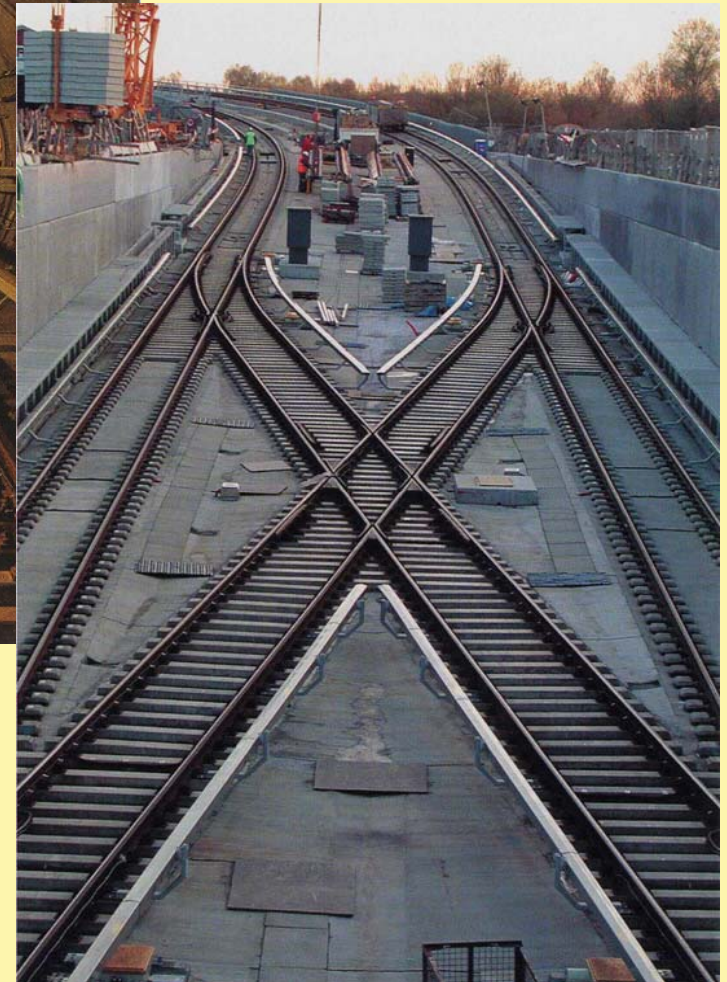
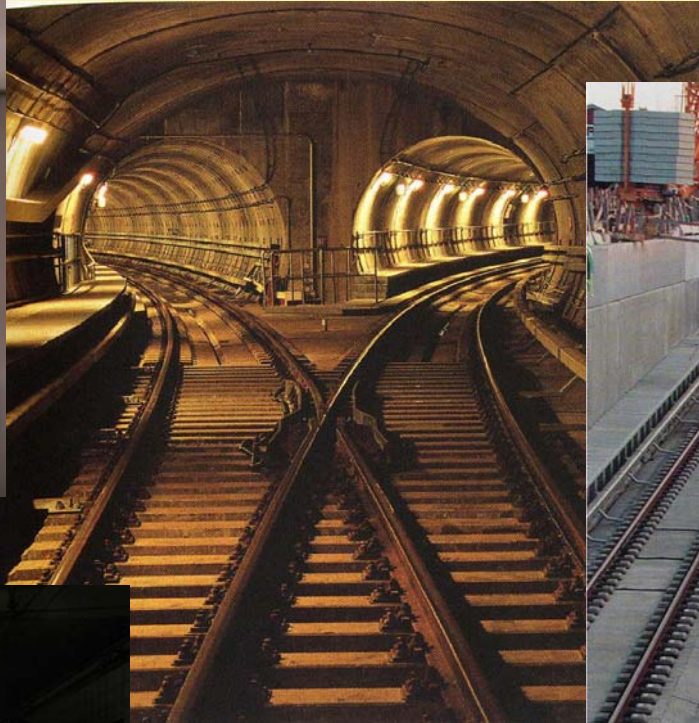
Functionality

- Capacity not less 75.000 pphpd
- 10 car trains, each car 5 doors
- Equals 8 bridges





Visions become real





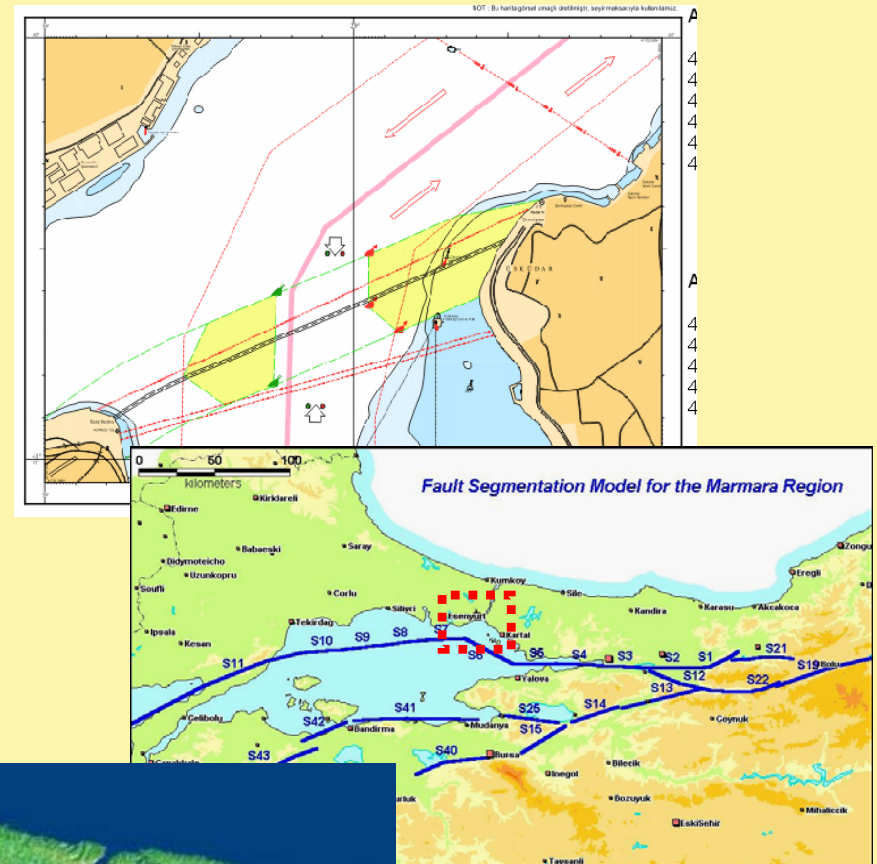
Special Challenges

Highlights



Special Challenges

- Deepest Immersed tunnel
- Seismic
- Bosphorus Strait
- Safety
- Historical Heritage



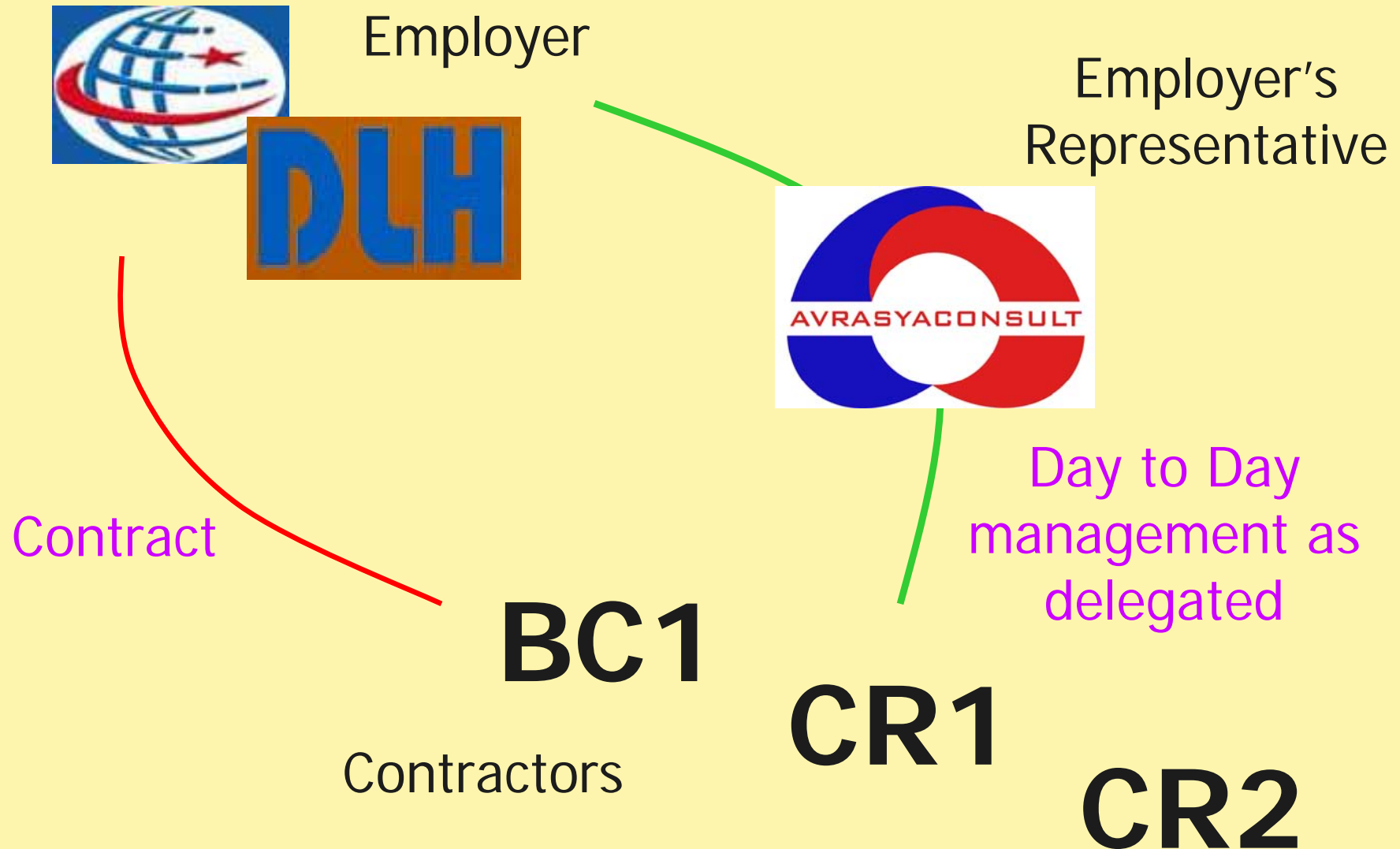


Organisation

In Brief



The Organisation





The Contracts

- BC1, tunnels and stations including E&M
- CR1, Commuter Rail Infrastructure and all Systems including OCC
- CR2, Rolling Stock





The Avrasyaconsult JV

- Pacific Consultant International, Japan
 - Lead partner
- Yuksel Proje, Turkey
 - Local Joint Venture Partner
- Oriental Consultants, Japan
 - Joint Venture Partner
- Japan Railways Technical Services,
 - Joint Venture Partner



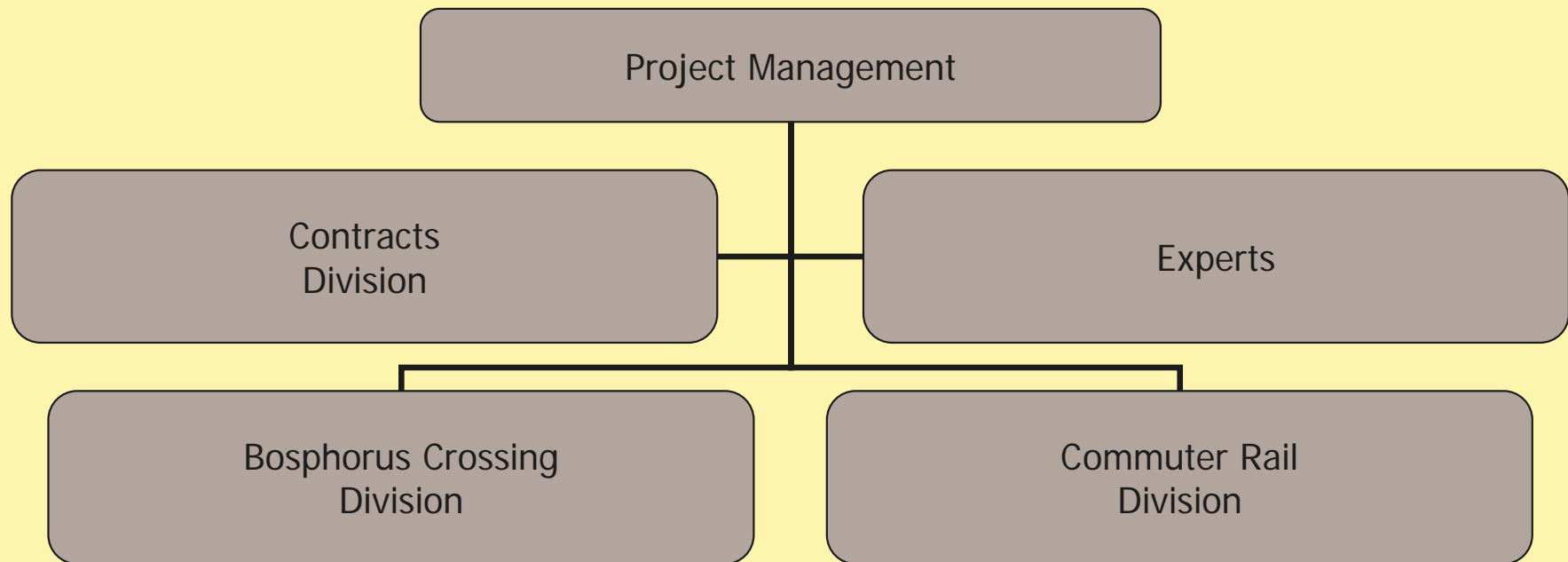
The Avrasyaconsult JV

Associated Companies:

- Parsons Brinckerhoff, or PBI, USA
- Terzibasioglu Musavir Muhendislik Ltd.Sti, or TMM, Turkey
- Yerbilimleri Etud ve Musavirlik Ltd.Sti, or SIAL, Turkey



Avrasyaconsult



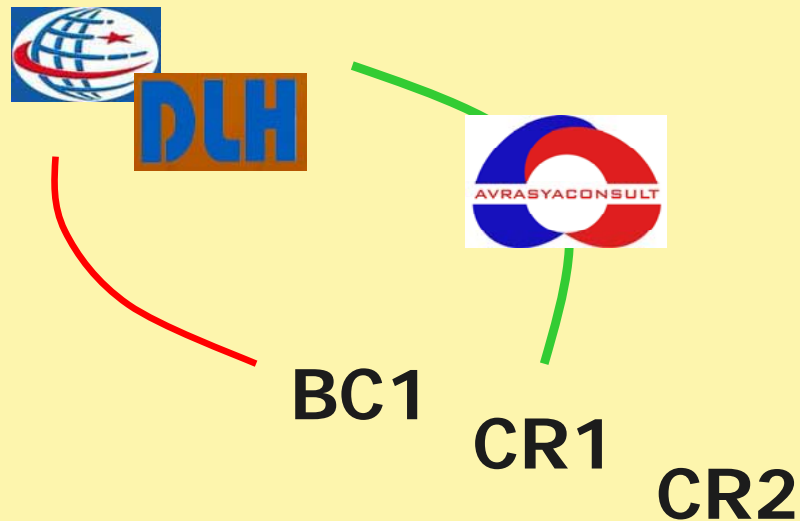


Management Principles



Management

- By Objectives, delegation and follow up

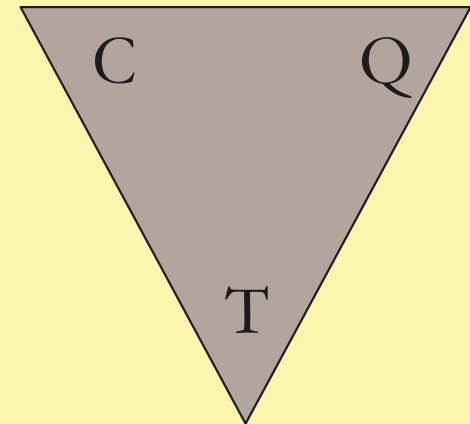
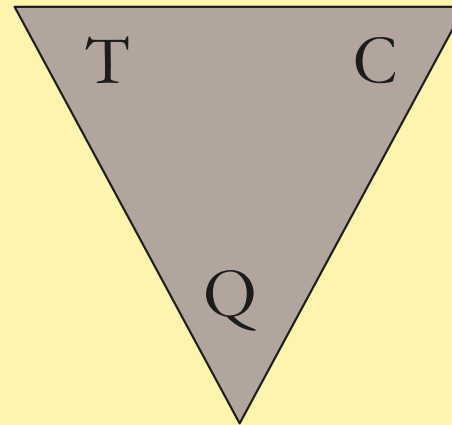
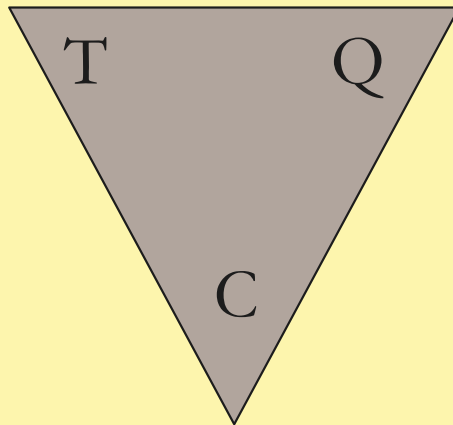


- By acting Pro-actively and via Controlled Processes



Management

- By observing priority



T: Time
Q: Quality
C: Costs



Management

- By observing the "7 C's"

Clarity

Communi-
cation

Coordination

Cooperation

Consistancy

Continuity

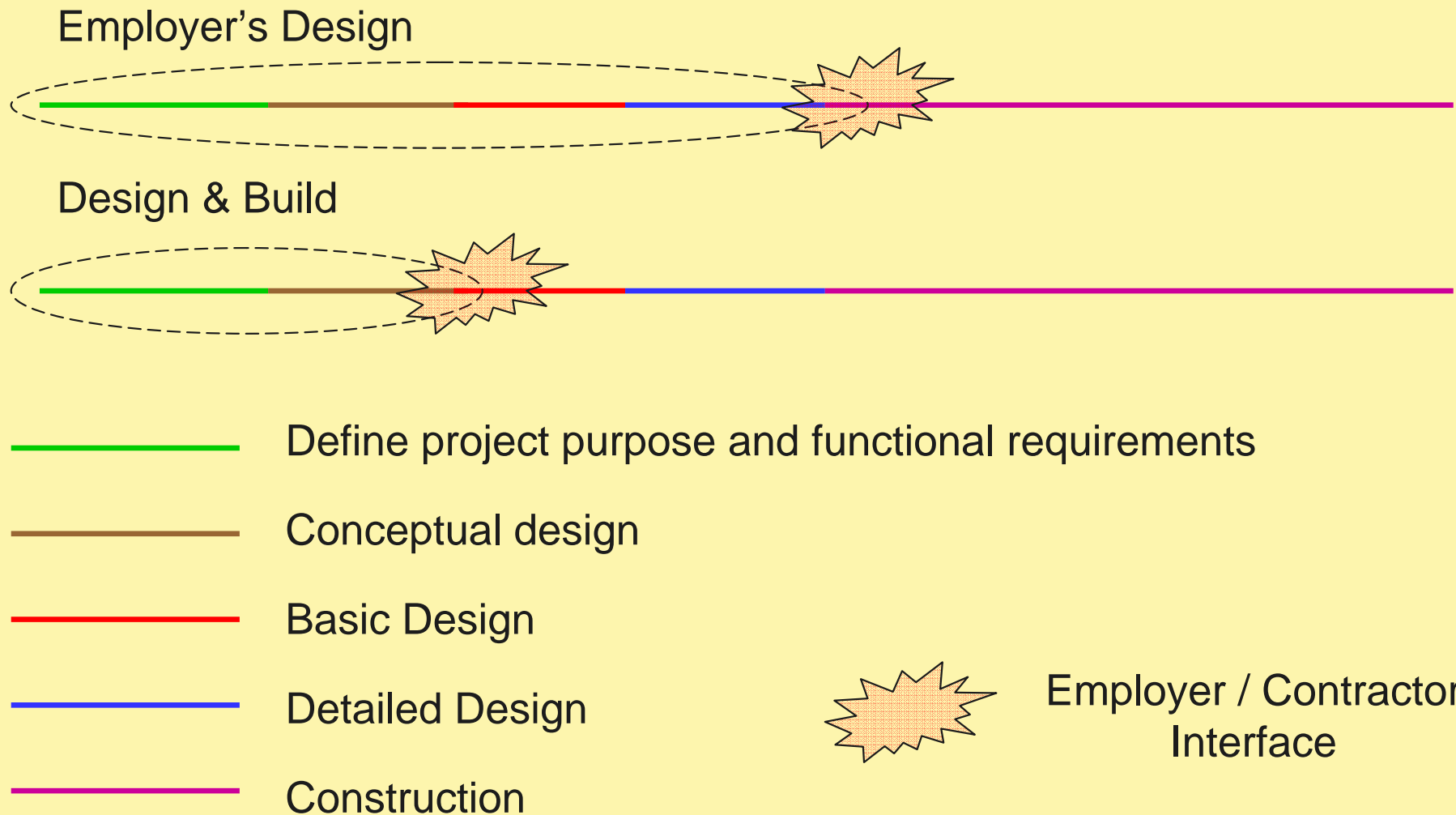
Commitment



Contract Strategies



Type of Contract





How many contracts ?

- One extreem: 1 Contract
- Another extreem: 25 Contracts
- Must match type of Contract
- Must match Management Strategy
- Balance chosen on this Project:

Three Contracts



Thank you for
listening

Next Speaker Lars Christian Ingerslev