Lecture 1

Introduction to Construction Information Management Systems

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Course Introduction

- **See syllabus**

Group Project Brief

- **GUIDELINES**
  - 1 group: 2 members
  - Please submit each deliverable (one per group) at the beginning of the lecture on their respective due dates.
  - For this project, each group will design and implement a database management system for a civil engineering application. Each group will define its own topic. Examples include: infrastructure O&M, cost estimating, materials management, quality control, inventory control, payroll, among others.
  - Each group must meet with me before starting to draft Deliverable #1. Groups should contact me to schedule this meeting.
  - The database management system should be implemented using Microsoft Access, MySQL, or MongoDB.

Group Project Brief

- **REPORTS**
  - **Deliverable 1 (10/18) – Database Initial Study (5%)**
    - Problem definition, background, need, objectives, scope, and proposed approach
  - **Deliverable 2 (11/1) – Conceptual Database Design (10%)**
    - Revision of Deliverable 1, database analysis and requirements, entity-relationship model, tables, forms, and reports
  - **Deliverable 3 (12/13) – Implementation (20%)**
    - Revision of Deliverable 2, project description, final system design, and prototype implementation

- **PRESENTATIONS**
  - Phase 1 (11/1) – Deliverable 1 and 2
  - Final (12/13) – Deliverable 3 (5%)

PMIS (Project Management Information Systems)

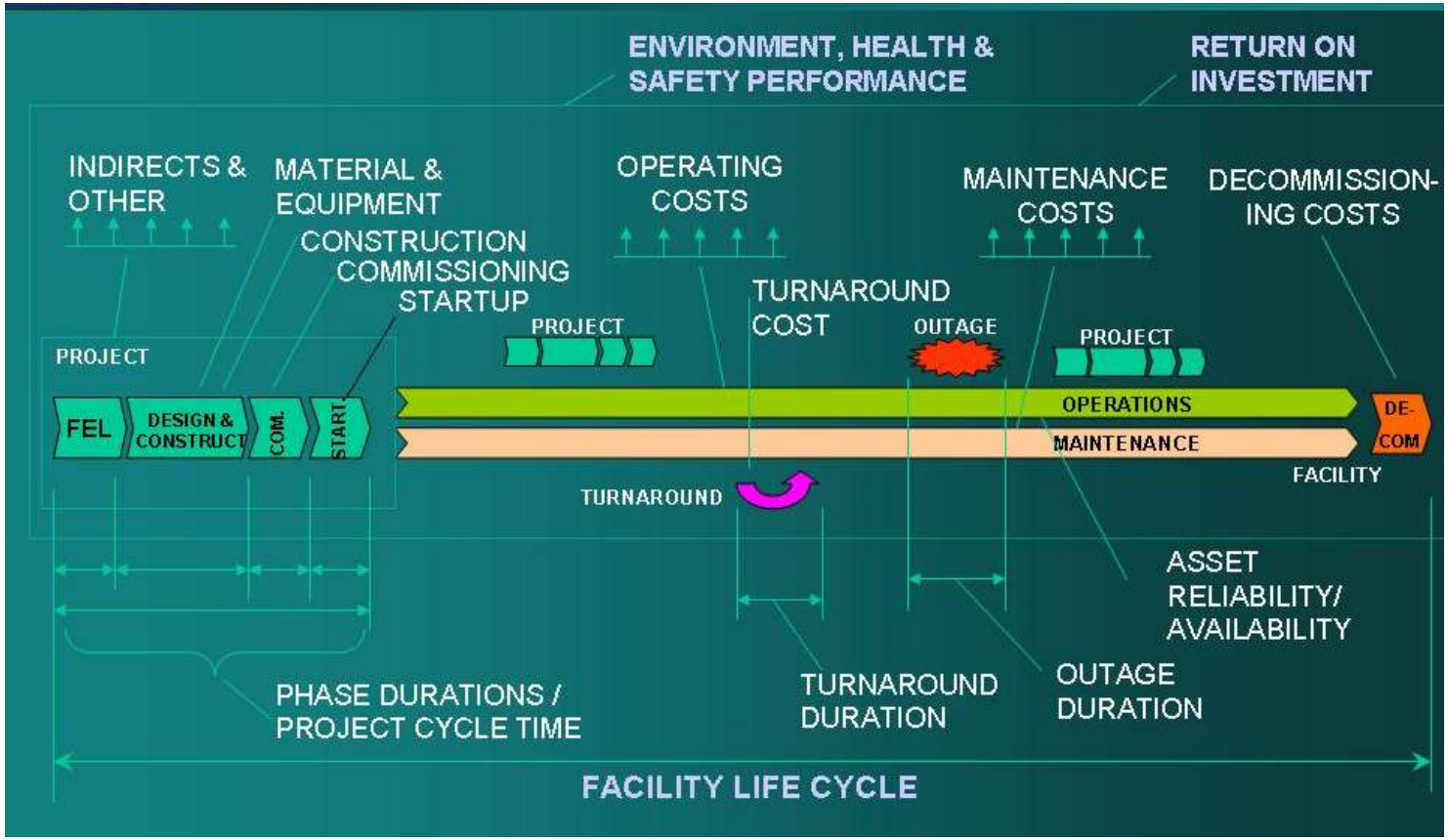
Information on Construction Projects

- **Information on Construction Projects**

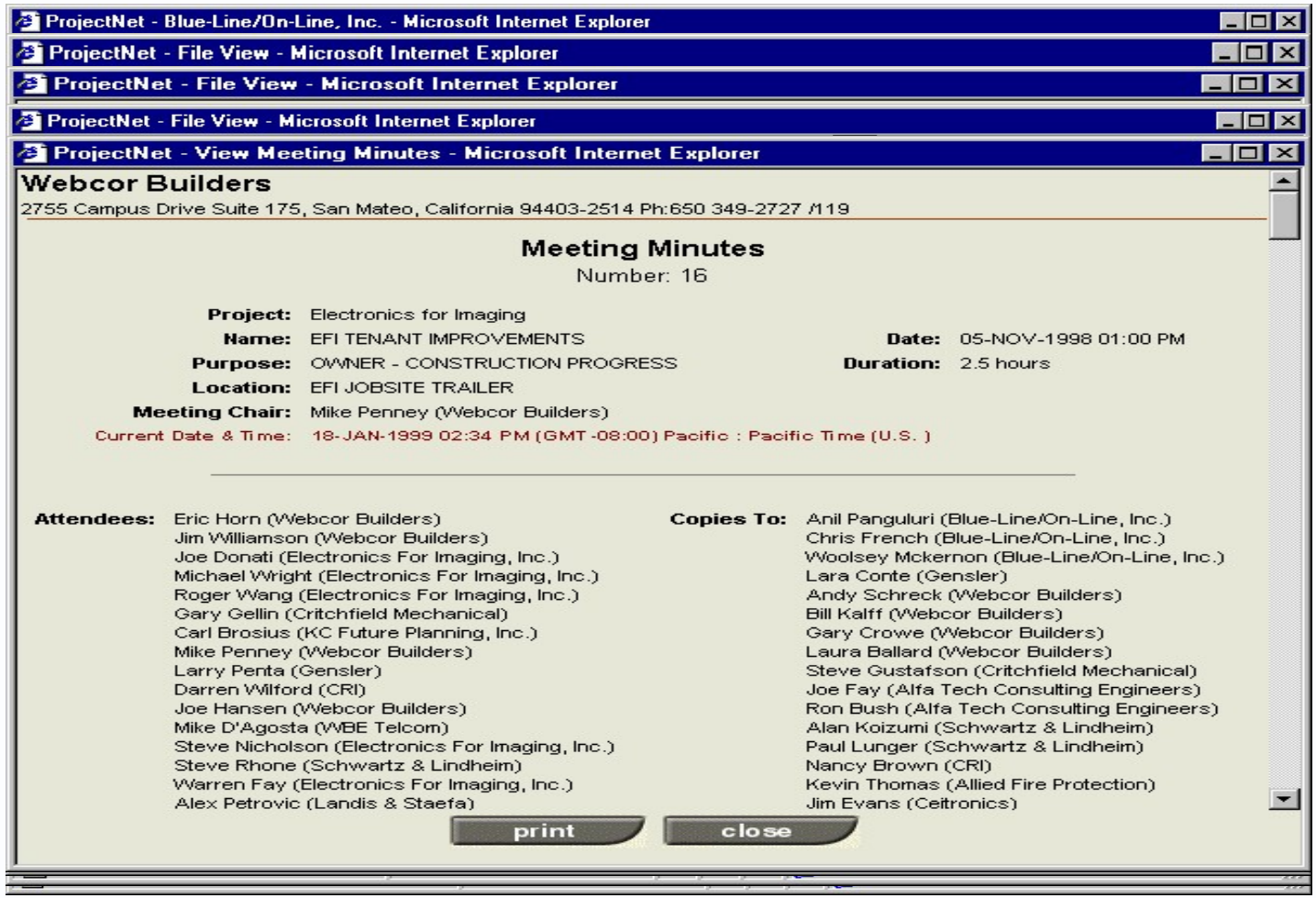
$10M and More General Construction Project

420 Stakeholders, 850 People, 50 Kinds of Documents, 56,000 Pages

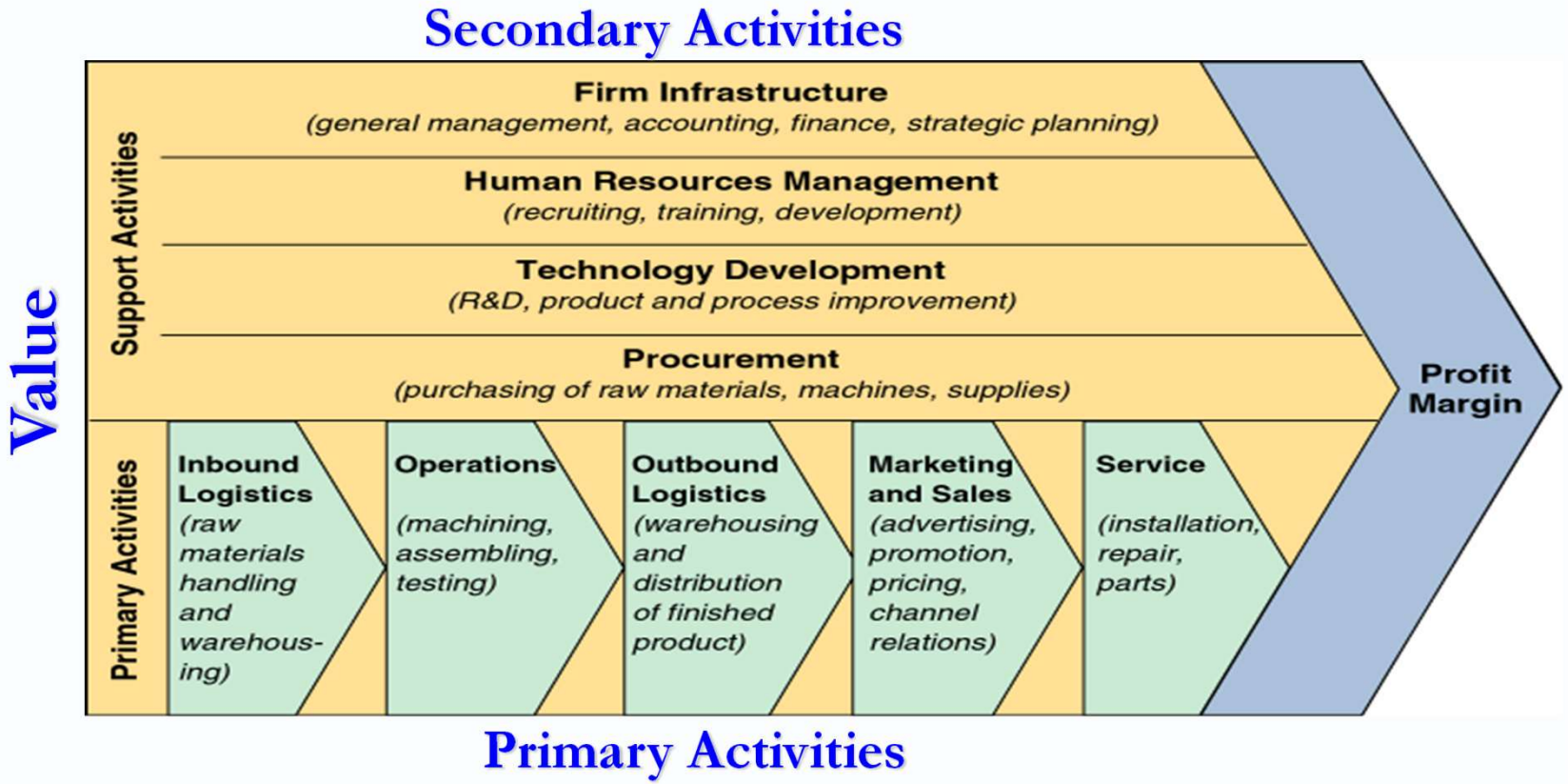
- **Information through Project Lifecycle**



PMIS Example



Purpose of PMIS: Value Chain



Analyze the internal operations of a corporation to increase its efficiency, effectiveness and competitiveness.
A company analysis by systematically evaluating a company's key processes and core competencies.
Activity support using IT to adding value to the company and finally maximize the company's profit!

Issues on the Use of PMIS

- PMIS, ERP, CALS, C3R, FMS, …
- Systems for systems: practices vs systems
- Non-structured data
- Data security: owners vs contractors vs public
- Lessons learned?

1st Team Assignment
Due: 9/13 (Mon)

Read two relevant articles (news, reports, journals, etc.) about PMIS (one old, one recent)

Prepare 5-minute presentation (Brief summary + Critics)