

Fall semestre

DATABASE DESIGN and

its applications in architecture

Information System Models

by

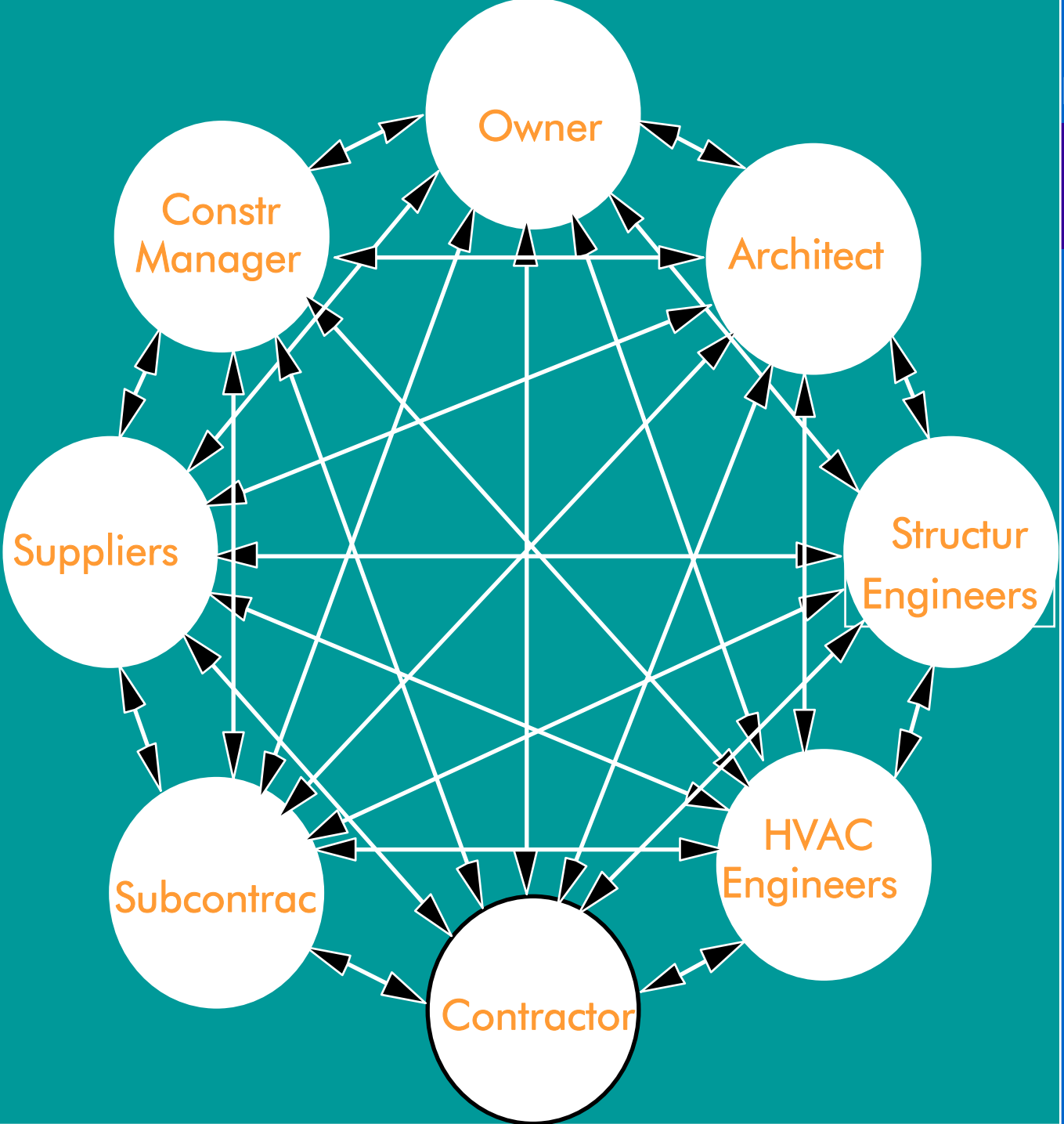
Prof.Dr. Alaattin KANOĞLU

I.T.U. Faculty of Architecture



DISTRIBUTED ARCHITECTURE

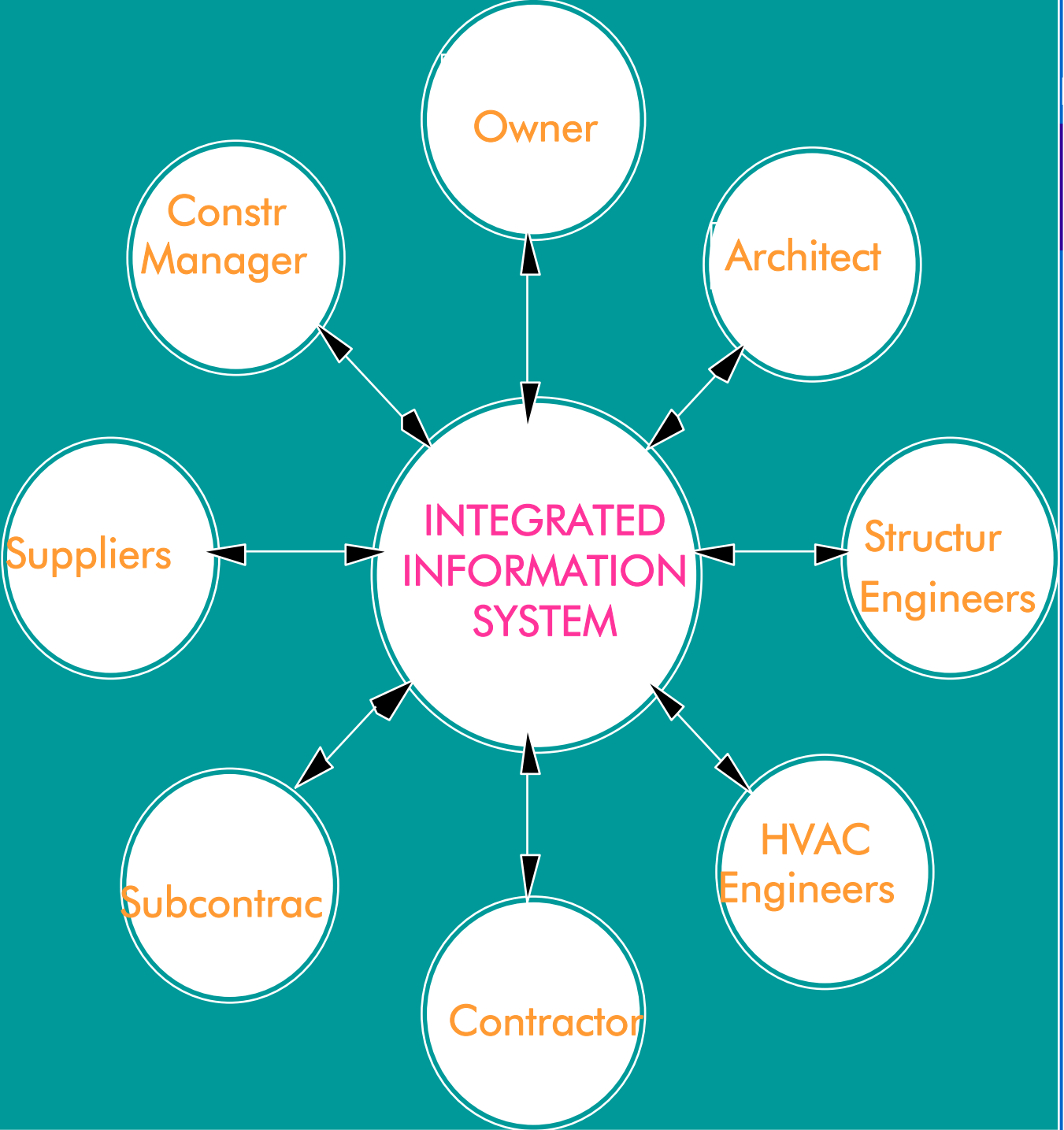
INFORMATION FLOW



IS in CONCEPTUAL DIMENSION

DISTRIBUTED ARCHITECTURE

INFORMATION FLOW



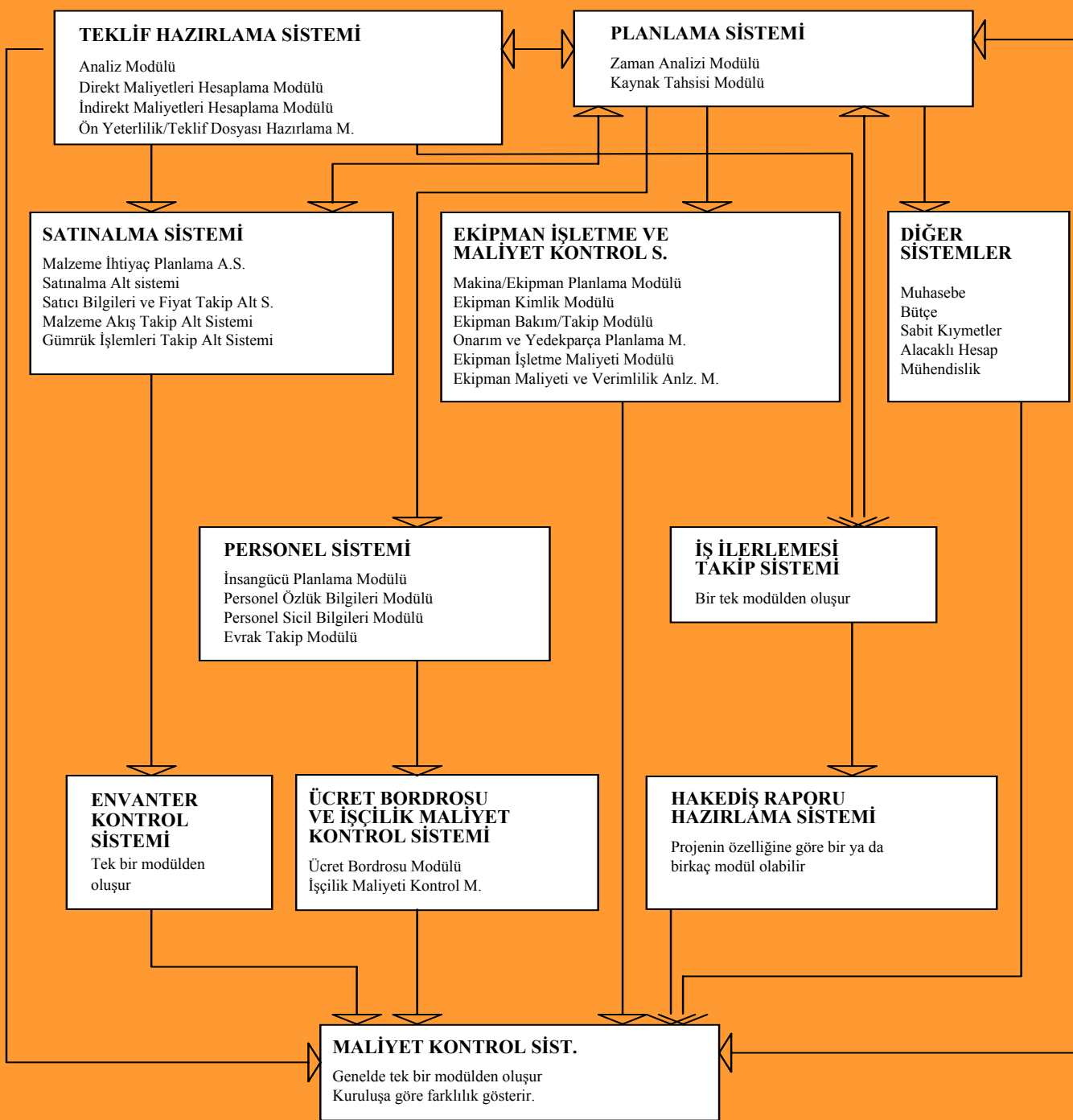
IS in CONCEPTUAL DIMENSION

IS Models in the world

- **ICON** - (Intelligent Integration of Information in Construction) (Aouad et al., 1995)
- **RATAS** - (Infrastructure for Computer Integrated Construction (Björk, 1994)
- **ATLAS** - Architecture, Methodology and Tools for Large Scale Engineering (Bohms et al., 1994)
- **COMMIT** - (Construction Modeling and Methodologies for Intelligent Information Integration - Rezgui et al., 1998)
- **COMBINE** - Computer Models for the Building Industry in Europe (Dubois et al., 1995)
- **COMPASS** – Cost Management Planning Support System (Hastak et al., 1994)
- **SPACE** - Simultaneous Prototyping for an Integrated Construction Environment (Underwood and Alshawi, 1997)

IS Models in Turkey

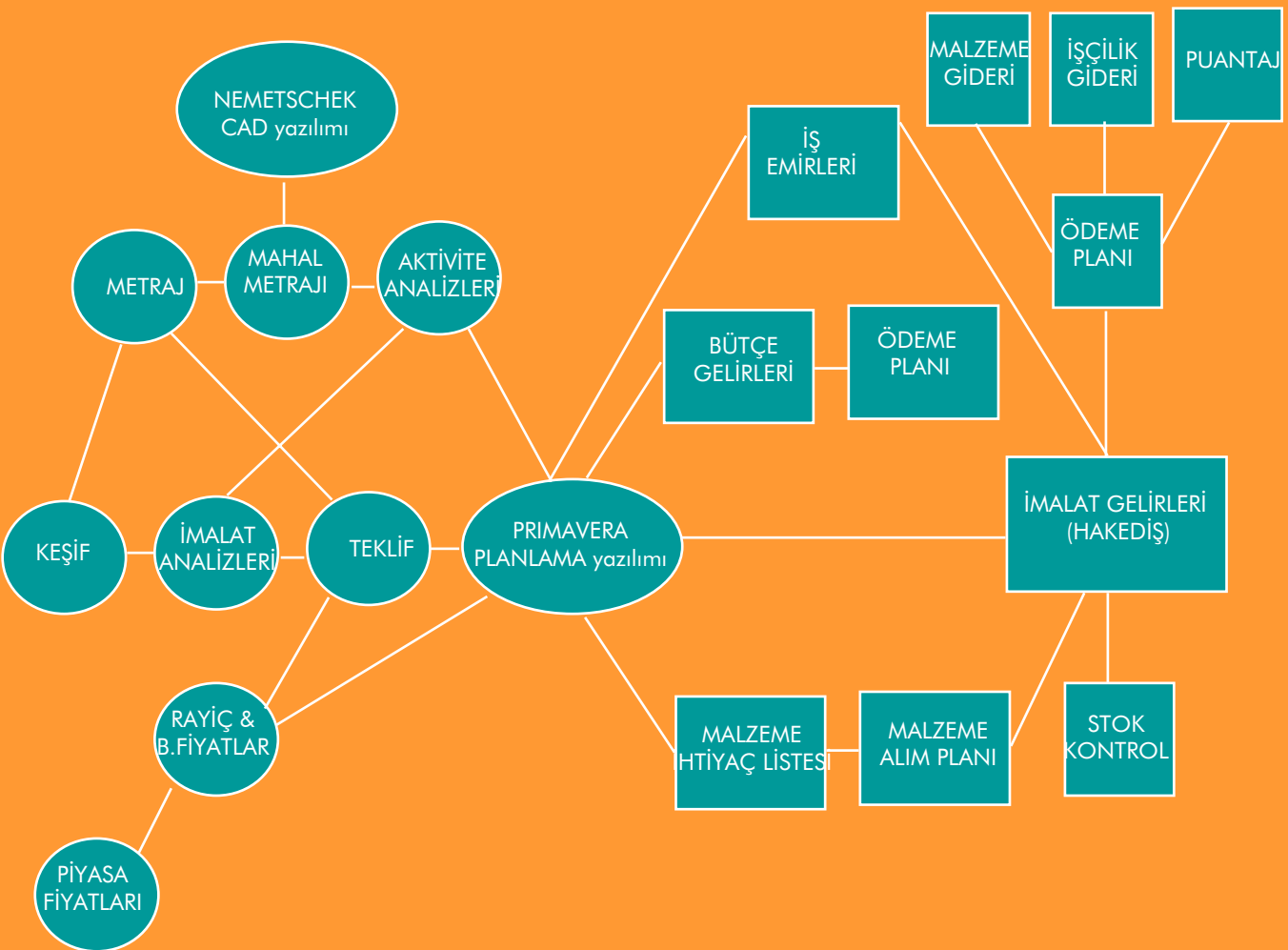
- **IMPROMA** (IMS)
- **ALVIMA** (ALARKO)
- Integrated Management Information System (ENKA)
- Integrated Management Information System (STFA)
- **BAAN** ERP Project (BAAN)
- **AVINAL** Construction Management Set (AVINAL)
- **BMBS** Building Cost Information System (ITU)
- **ASAP** Automation System for Arch. Practices (ITU)
- **S-3 TUBITAK** Automation System for Contractors (ITU)
- **MITOS-E** Integrated Autom. Syst. for Constr. Ind. (ITU)





AVINAL

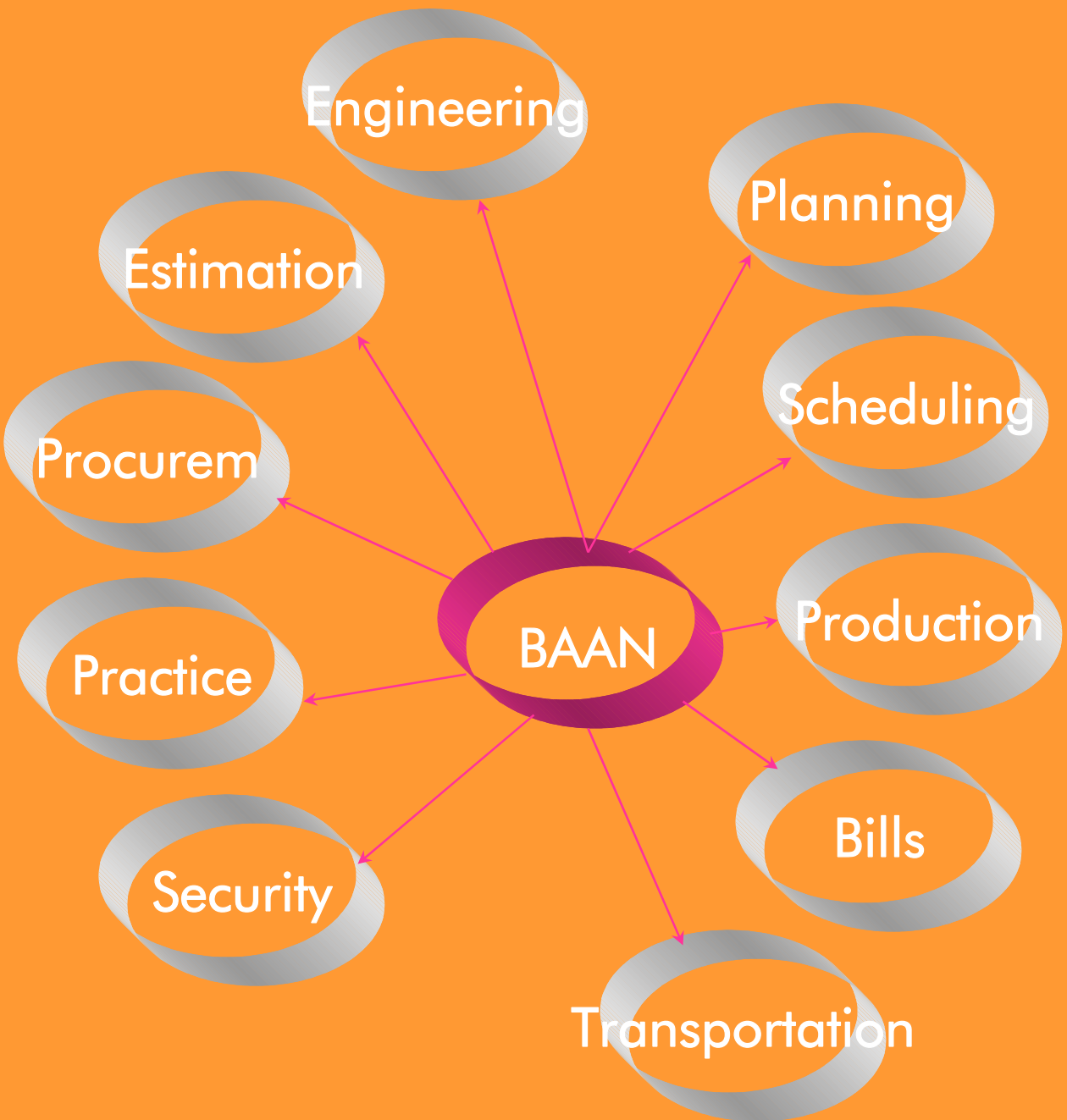
CONSTRUCT. MANAGEMENT SET



IS EXAMPLES

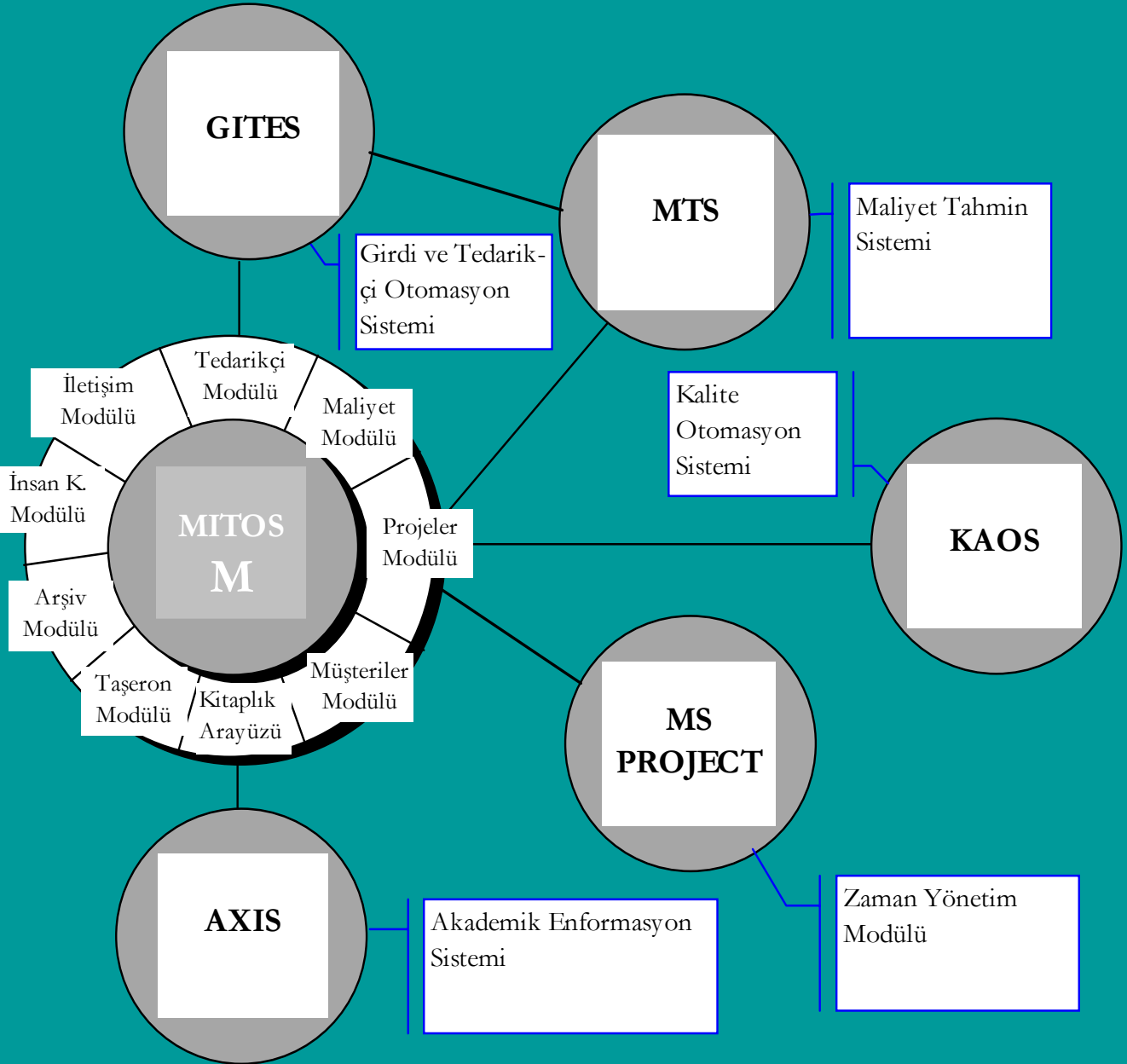
BAAN

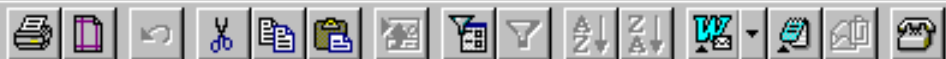
BAAN ERP PROJECT



IS EXAMPLES

IS EXAMPLES





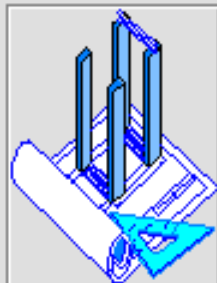
MITOS

Tasarım
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Dr.Y.Mimar
Alaattin Kanoğlu

MITOS



Mimari Büro
Otomasyon Sistemi

Projeleer

Muhasebe

Müşteriler

İletişim

Iaşeronlar

Kitaplık

Firma/Malzeme

Arşiv

İnsan Kaynakları

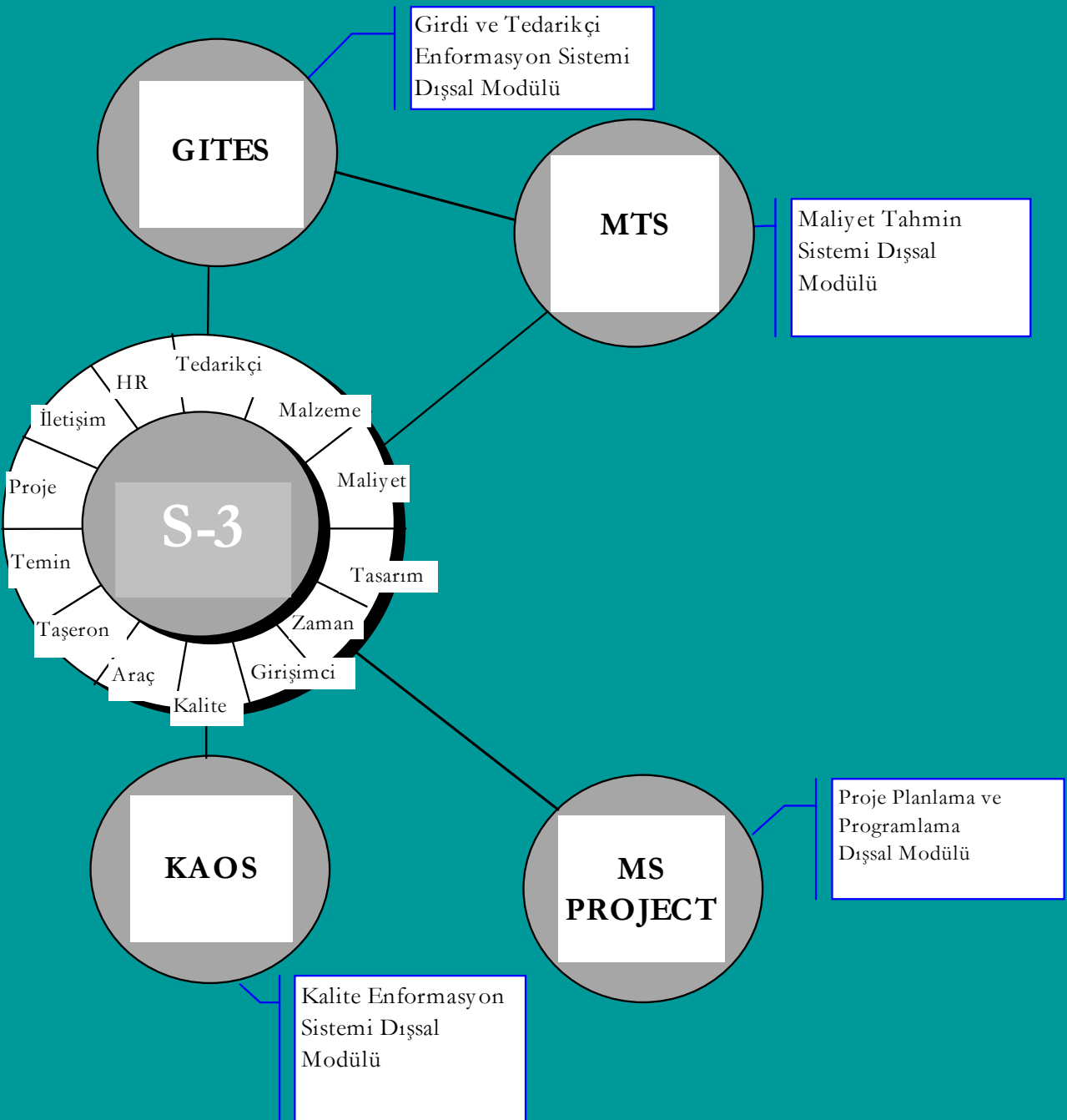
Windows

Mimari Büro Otomasyon Sistemi

S-3 TÜBİTAK

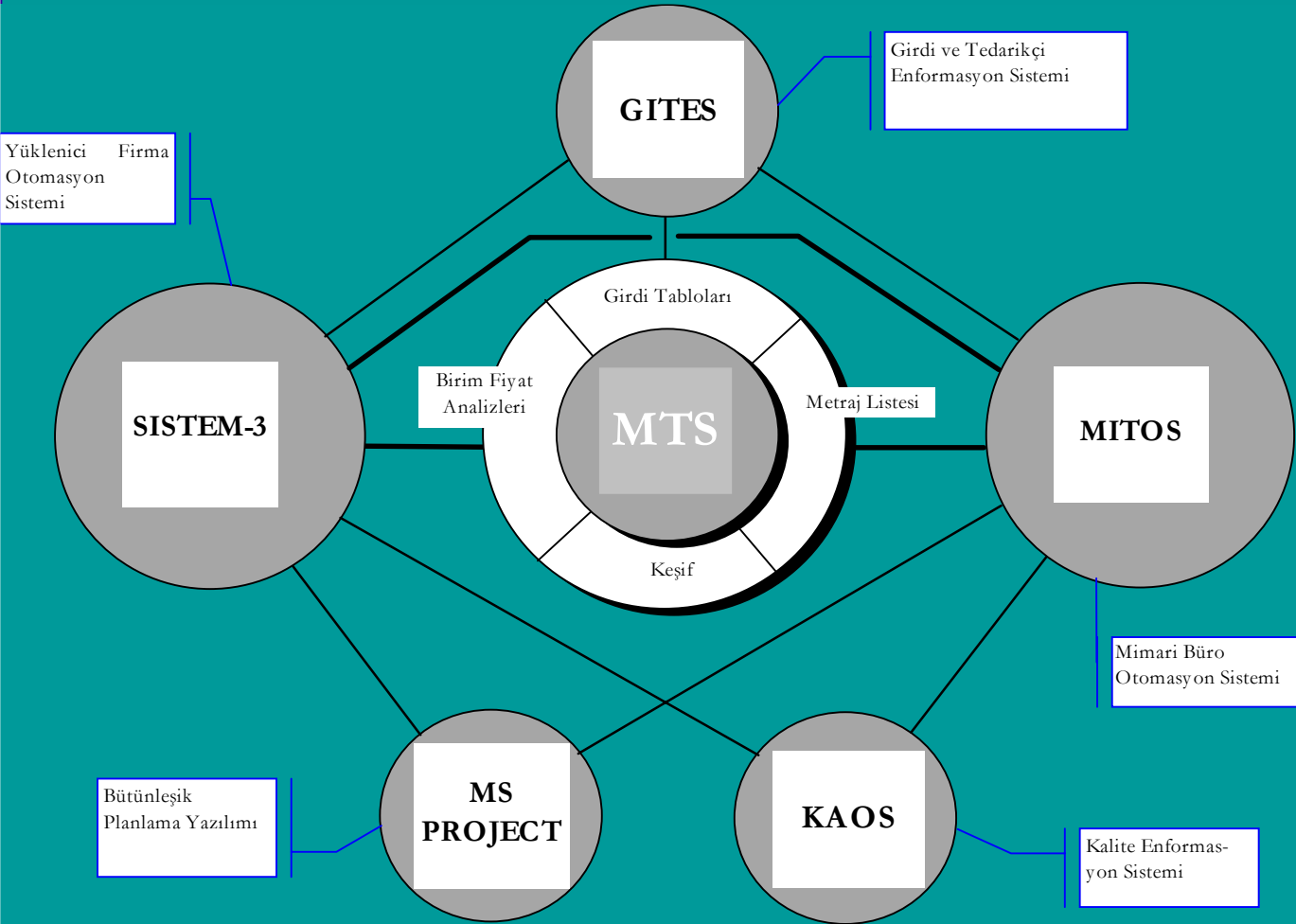
AUTOMATION SYSTEM FOR CONTR. FIRMS

IS EXAMPLES

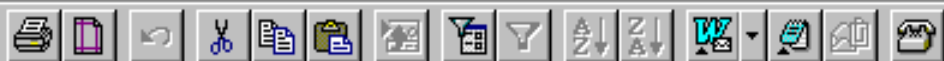


MTS

COST ESTIMATION SYSTEM

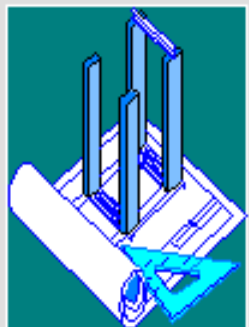


IS EXAMPLES



Sistem-3

Design
Copyright



Dr.
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Faculty of
Architecture

TÜBİTAK



INTAG-912
Research Project

Proje

Girişimci

Altyüklenici

Tedarikçi

İnsan Kaynakları

Zaman

Tasarım

Malzeme

Ekipman

Maliyet

İletişim

Kalite

Temin

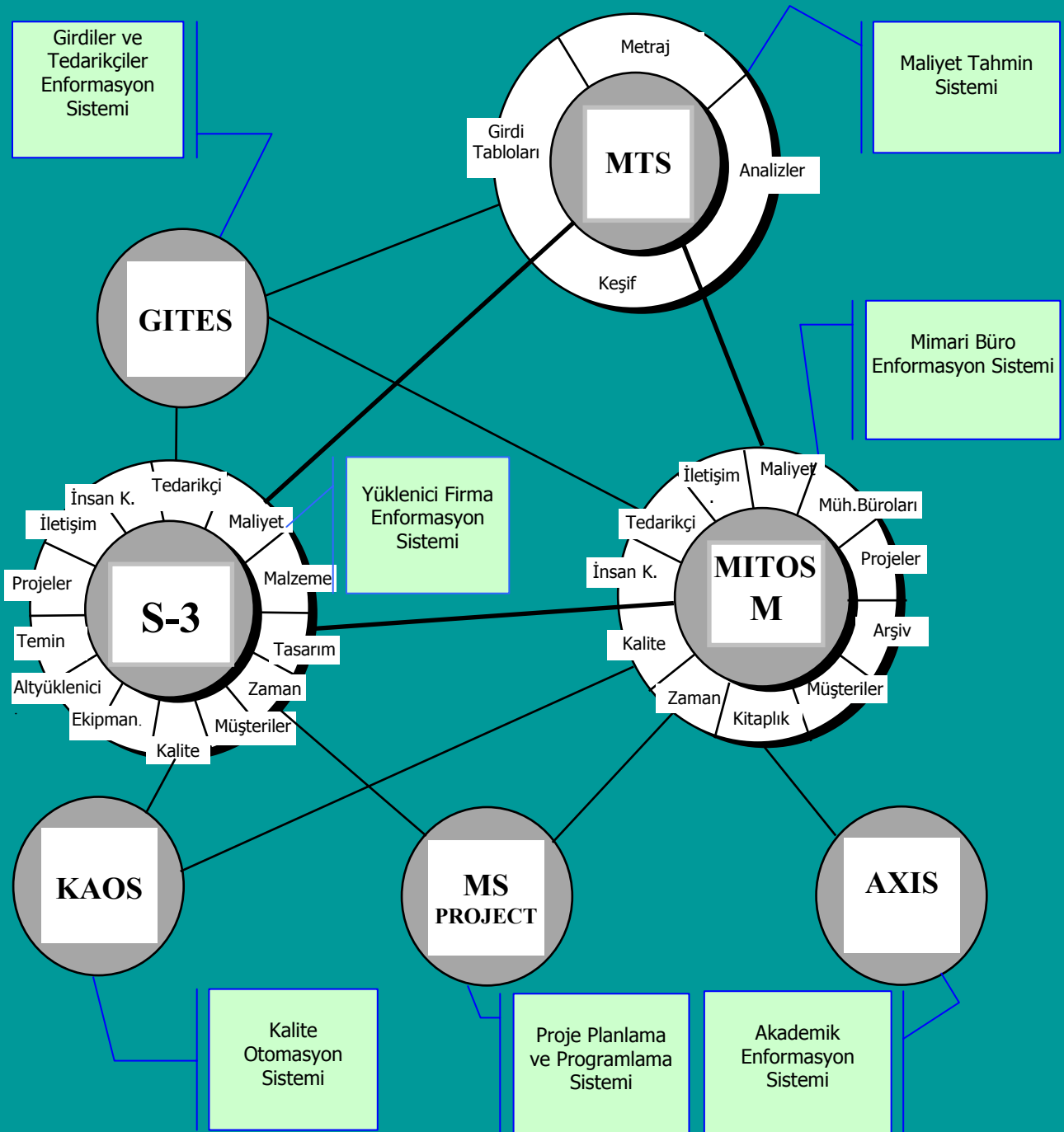
Windows

yüklenici otomasyon sistemi

MITOS ENTEGRE

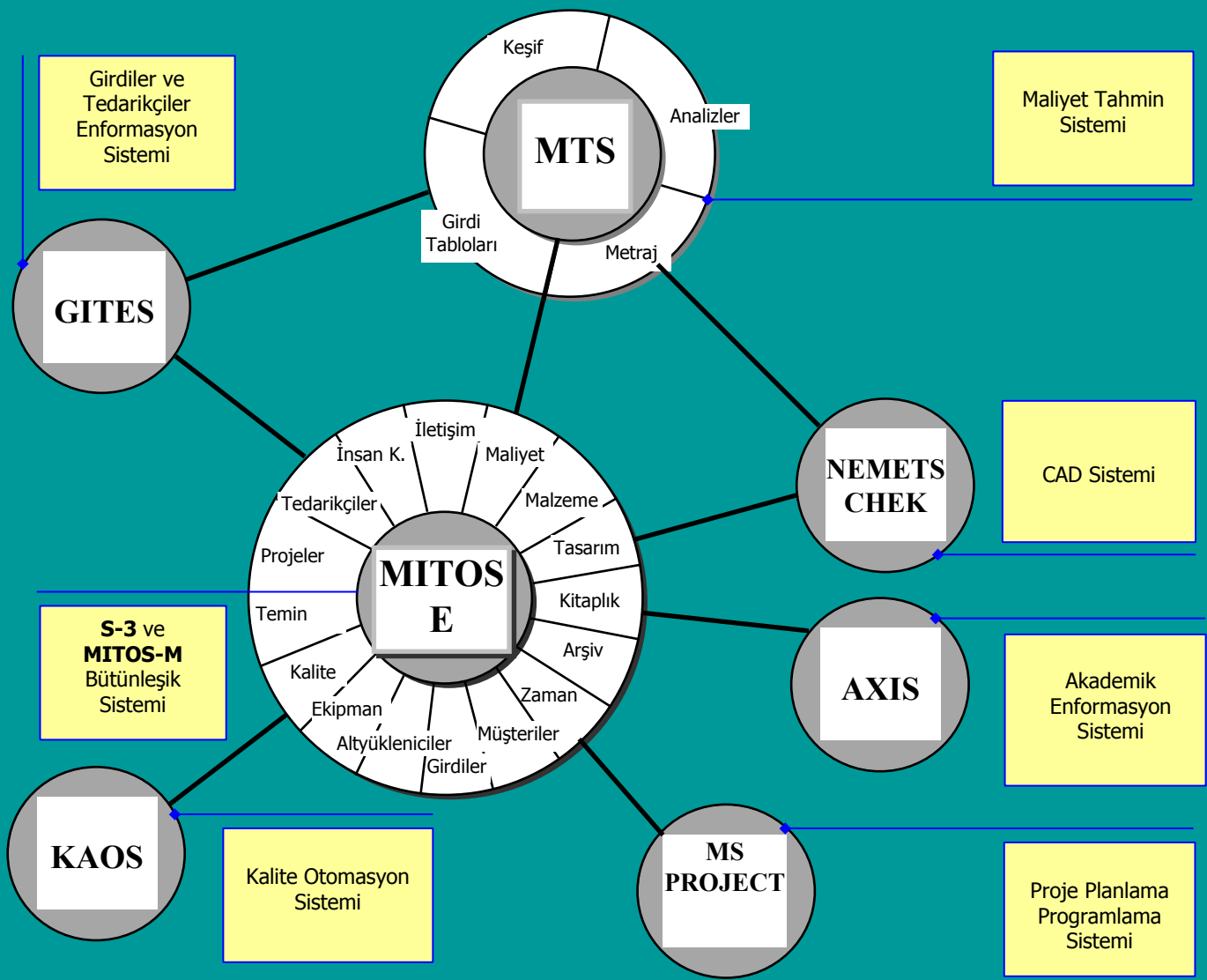
AUTOMATION SYST. FOR CONSTR. INDUSTRY

IS EXAMPLES



MITOS - DB

AUTOMATION SYST.FOR DESIGN/BUILD ORG.



IS EXAMPLES



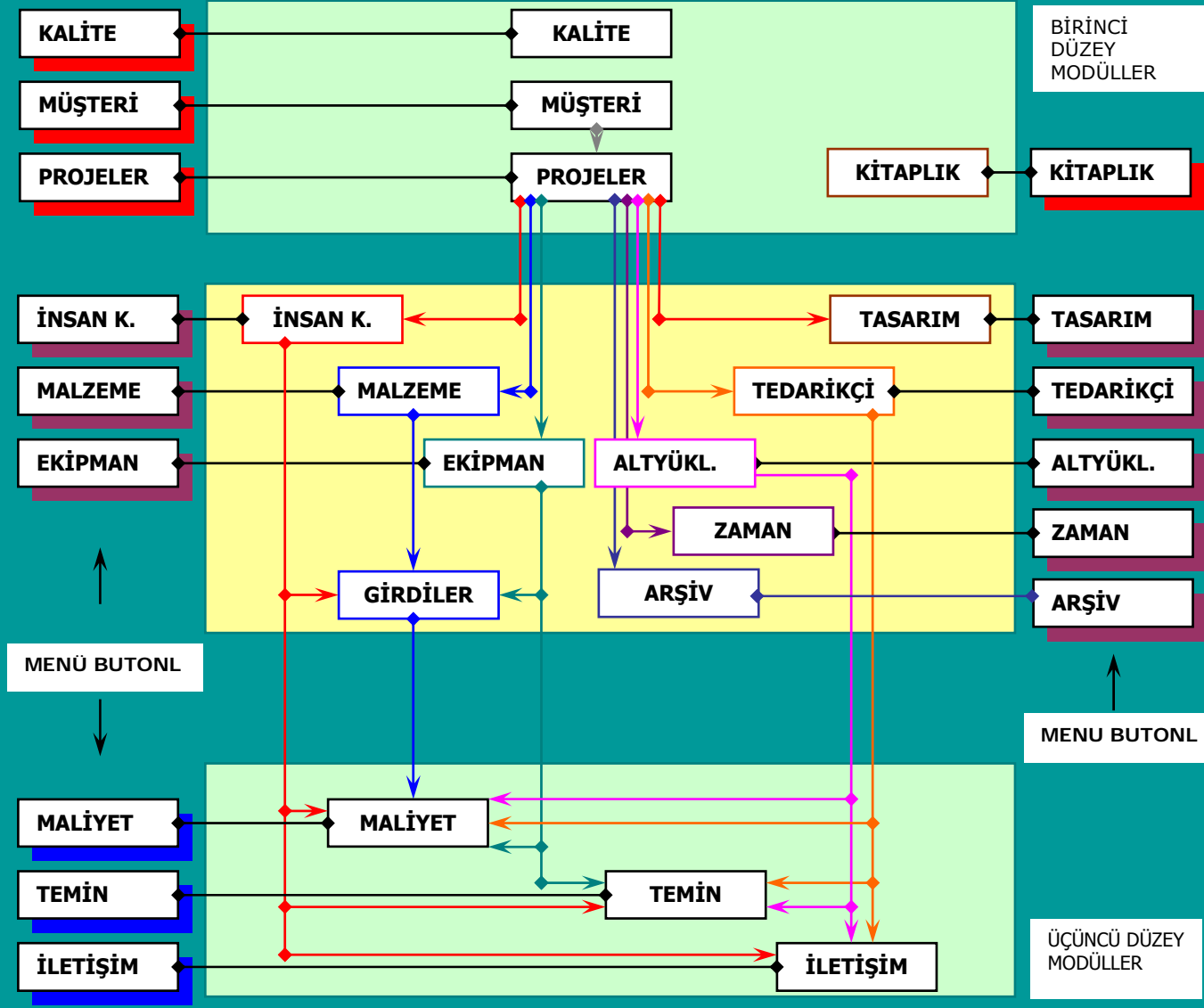
mitos

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Girişimci	Taşeron	Tedarikçi																
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İletişim	Temin	Tasarım																
Kıtaplık	Kodlar	Arşiv																

firmaları

otomasyon sistemi

IS EXAMPLES



LEVELS OF MODULES

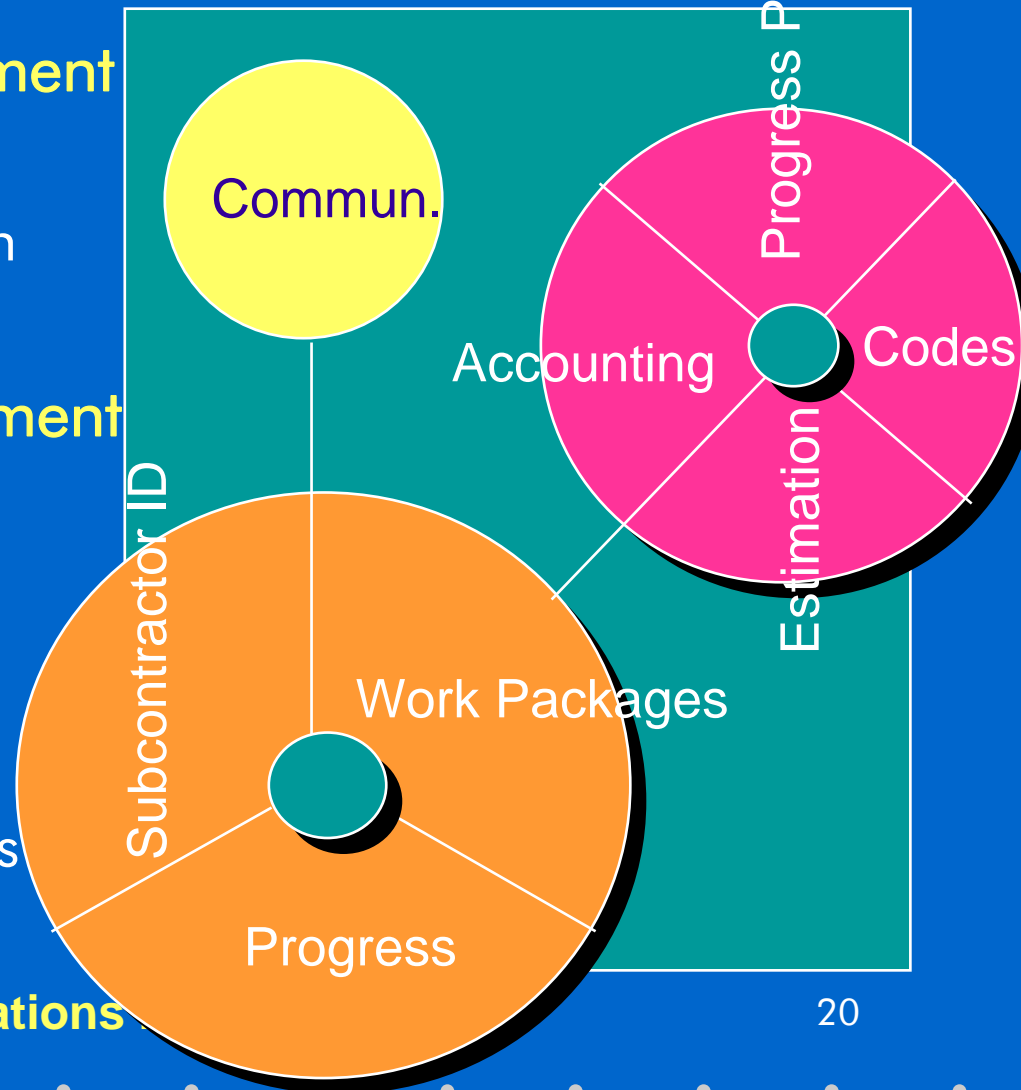
MITOS ENTEGRE

MITOS - Components of the Model

- Project Management M.
- Client Management M.
- Quality Management M.
- Supplier Management M.
- Procurement Manag. M.
- Time Management M.
- Materials Manag. M.
- Sub-contractor Manag. M.
- Human Resources M.M.
- Equipment Manag. M.
- Design Management M.
- Communication Man. M.
- Cost Management M.
- Supplementary Modules (Library, Archive, Codes)

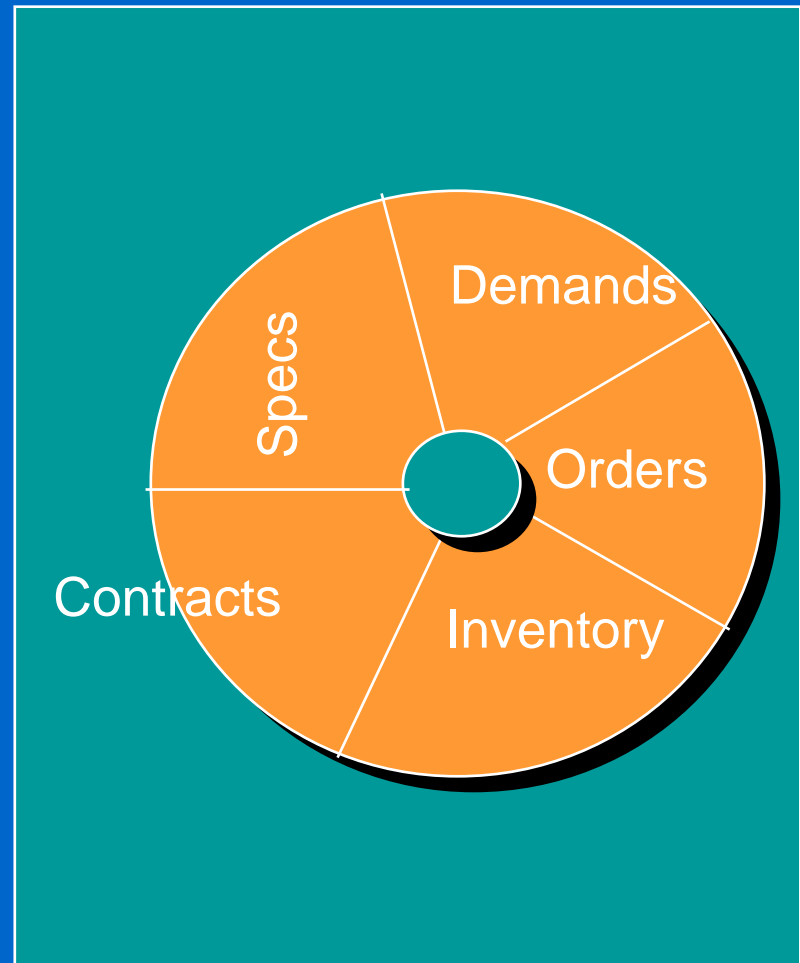
Subcontractor Management Module

- **Subcontractor Management**
 - Subcontractors Info
 - Work items undertaken
 - Progress
- **Comunication Management**
- **Cost Management**
 - Accounting
 - Estimation
 - Progress Payments
 - Cost Accounting Codes



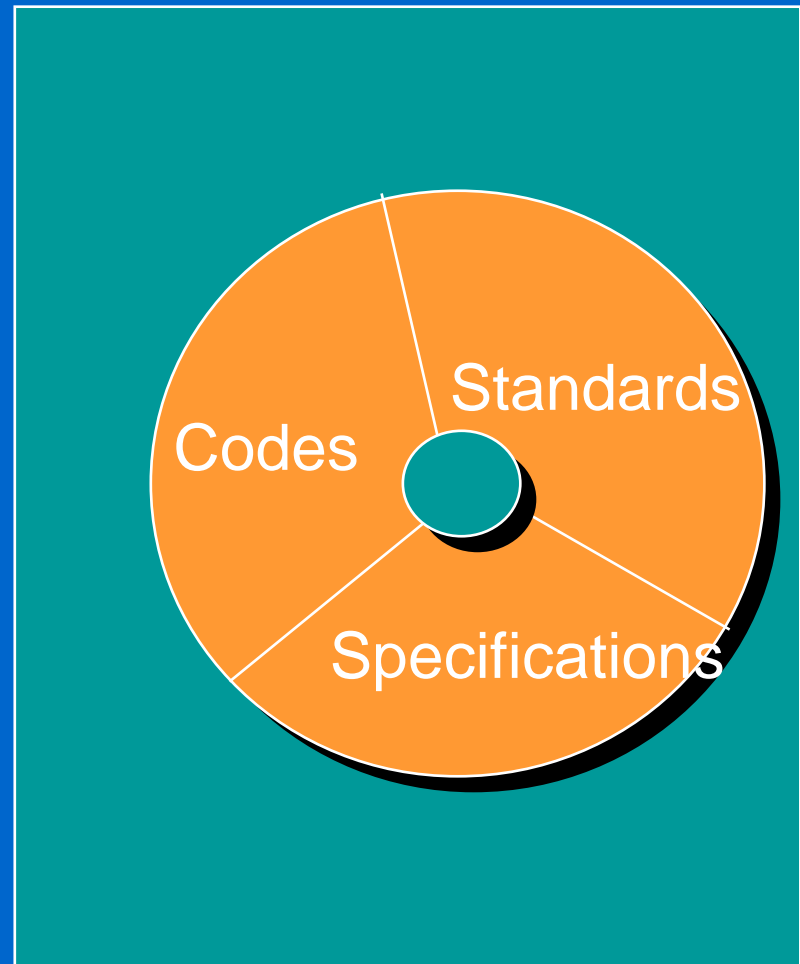
Procurement Management Module

- Demand Management
- Order Management
- Inventory Management
 - Inventory entries
 - Inventory out
 - Inventory status
- Contract Management
- Specifications Management



Quality Management Module

- Standards Management
- Codes, Regulations
- Specs Library Management
 - Materials specs
 - Equipment specs
 - Production items specs
 - Administrative specs
 - Personel specs (work definitions and job descriptions)



Design Management Module

- **Drawings Management**
 - Preliminary drawings
 - Shop drawings
 - Detail drawings
 - Installation drawings
 - As-built drawings
- **Process Management**
 - Monumental Buildi.Dept.
 - Municipality
 - Fire Department
 - etc.
- **Document Management**
 - Tapu
 - Çap
 - Röperli kroki
 - vs.

Communications Management Module

- Management of Messages
- Management of Approvals
- Management of Meeting Minutes
- Management of Writings

Cost Management Module

- **Cost Estimation**
 - Input Table Sets
 - UP Composition Table Sets
 - Contractor UP Tables
 - Subcontractor UP Tables
 - Bill of Quantity
 - Project Estimate
- **Cost Planning**
 - Cash flow - income
 - Cash flow - outcome
 - Cash flow - integrated
- **Cost Control**
 - Legal Accounting
 - Cost Accounting
- **Progress Payment**
 - PP for Contractor
 - PP for Subcontractors
 - PP for Personnel (payroll)
 - PP for Laborers
 - PP for Equipments
 - PP for Suppliers

Materials Management Module

- **Materials Management**
- **Suppliers Management**
 - Suppliers Info
 - Rates
 - Specs
- **Procurement Management**
 - Demands
 - Orders
 - Inventory
 - Specs
 - Contracts
- **Cost Management**
 - Accounts
 - Finance
 - Estimation
 - Progress Payment
 - Cost Account Codes
- **Quality Management**
 - Standards
 - Codes and Regulations
 - Specs Library

Equipment Management Module

- **Equipment Management**
- **Maintenance Management**
- **Supplier Management**
- **Procurement Management**
 - Demands
 - Orders
 - Inventory
 - Specs
 - Contracts
- **Cost Management**
 - Accounts
 - Finance
 - Estimation
 - Progress Payment
 - Account Codes
- **Quality Management**
 - Standards
 - Codes and Regulations
 - Specs Library

Human Resources Management Module

- **HR Performance Management**
 - Team Groups
 - Team compositions
 - Standard productivities
 - Performance coeff. in Projects
- **HR Cost Management**
 - Accounts
 - Finance
 - Estimation
 - Prograss payment (payroll)
 - Cost Account codes
- **HR ID Info**
- **HR Quality Management**
 - Standards
 - Codes and Regulations
 - Specs Library
- **HR Procurement Managm.**
 - Demands
 - Orders (procedure)
 - Inventory (status)
 - Specs (job descriptions)

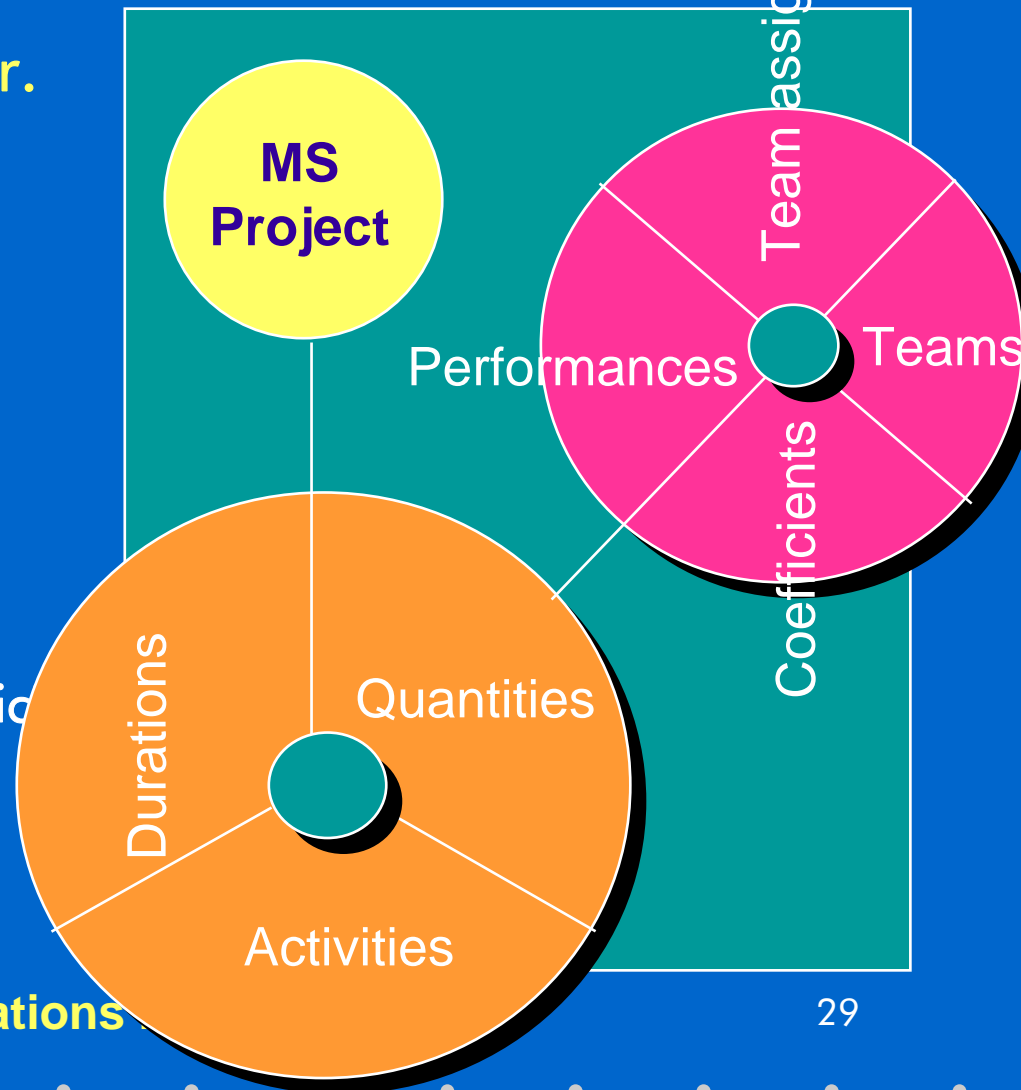
Time Management Module

- **Project Planning & Progr.**

- Activities
- Quantities for activities
- Activity durations

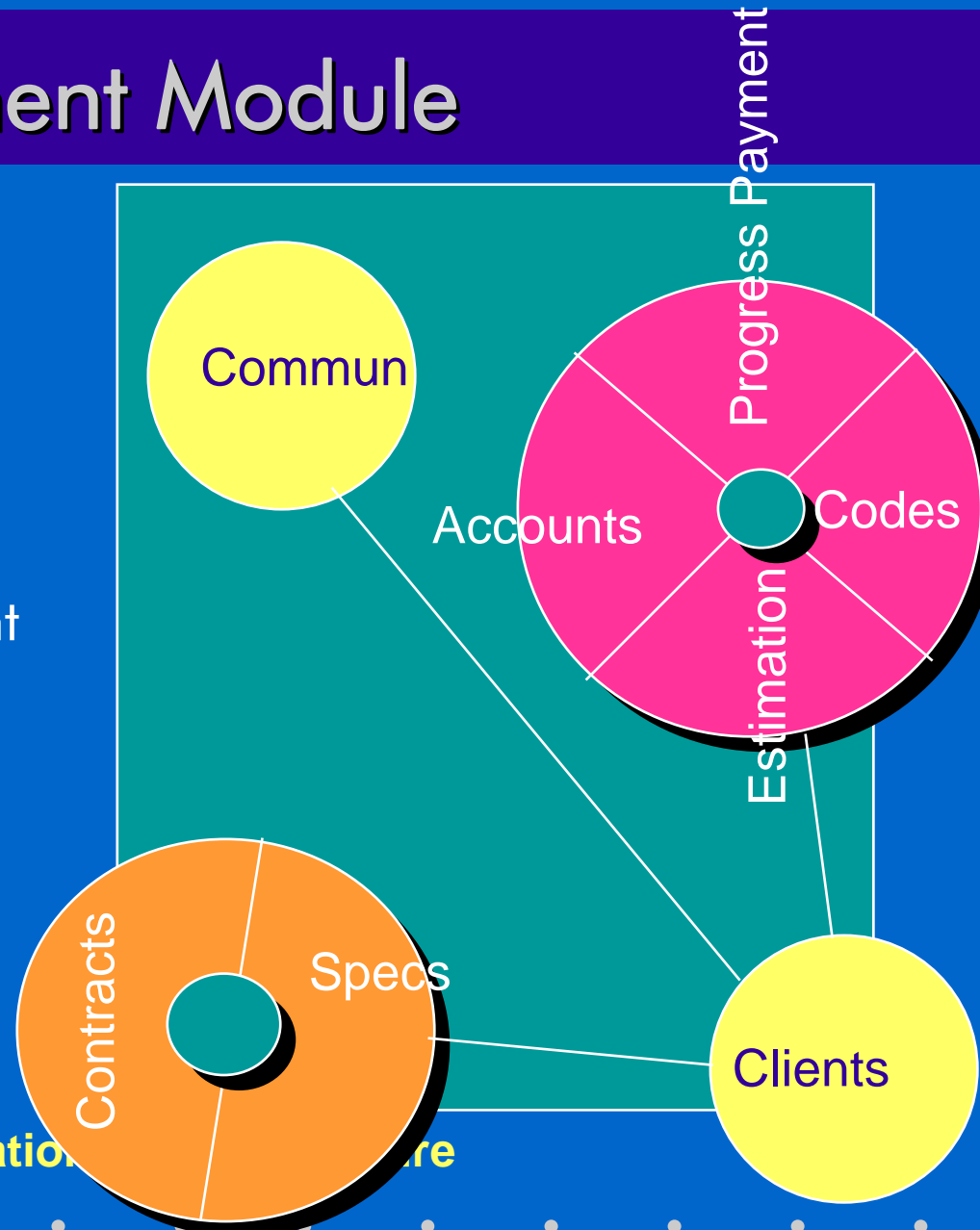
- **HR Management**

- Teams
- Team Assignments
- Team Performances
- Team performance coefficients
- Activity performance coefficients



Clients Management Module

- **Clients Management**
 - ID Info
 - Projects Info
- **Communications Mng.**
- **Procurement Mng.**
 - Contracts Management
 - Specs Management
- **Cost Management**
 - Progress Payments
 - Accounts
 - Estimation



Supplementary Modules (Codes)

- **Project Codes**
 - Project status
 - Project typology
 - Project phases
- **Production Item Codes**
 - Production groups
 - WBS codes
- **Supplier Codes**
- **Client Codes**
- **Subcontractor Codes**
- **Cost Codes**
 - Account codes
 - Contract type codes
- **Design WBS Codes**
- **HR Codes**
 - Job definition codes
 - Group codes
 - Team groups & team codes
- **Input Item Codes**
 - Laborer codes
 - Equipment codes
 - Material codes

Supplementary Modules (Archive)

- **Design Sheets Archive**
 - Preliminary design
 - Shop drawings
 - Details
 - Sub-system drawings
 - As-built drawings
- **Urban Planning Drawings Archive**
- **Document Archive**
- **Information System Archive**
 - Software archive
 - Data archive
- **Map Archive**

Supplementary Modules (Library)

- Books
- Periodicals
- Loan Info