



# Management of IT applications at Siemens Wind Power

## Internship Report Presentation

George Popescu  
October 2010

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**Company:** Siemens Wind Power A/S  
Largest European engineering conglomerate

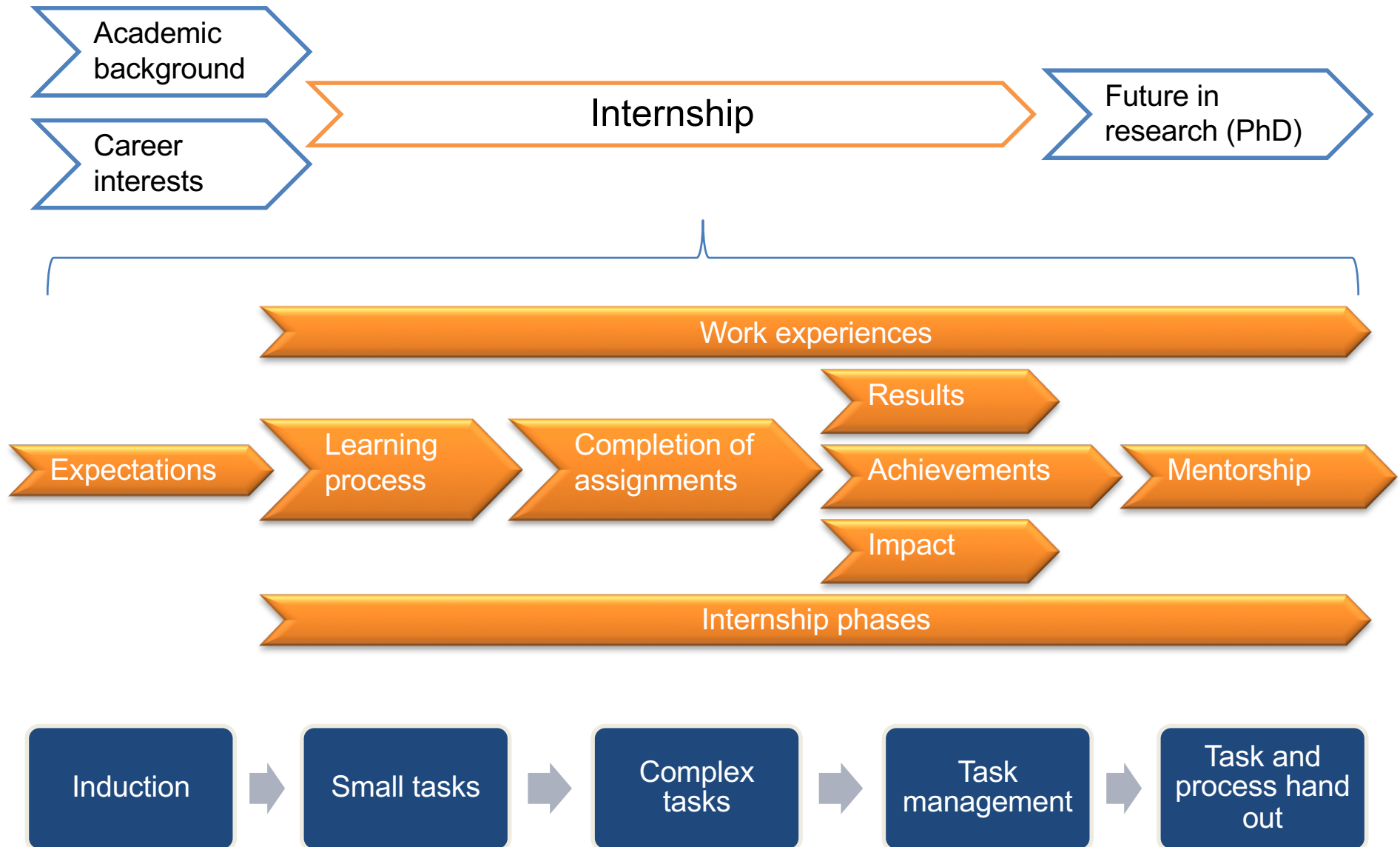
**Period:** 15<sup>th</sup> of March – 14<sup>th</sup> of September 2010

**Field of activity:** Management of IT applications

**Objectives:** practice, learning, research, team-work, task ownership, completion, results and appreciation

- ✓ Multi-national and multi-disciplinary practical experience
- ✓ Internship relevance for the **CoMaSIC Master program**
- ✓ Technology, processes, concepts, systems understanding

Interconnection between my **academic background at École Polytechnique** and **6 months work experience**







Personal



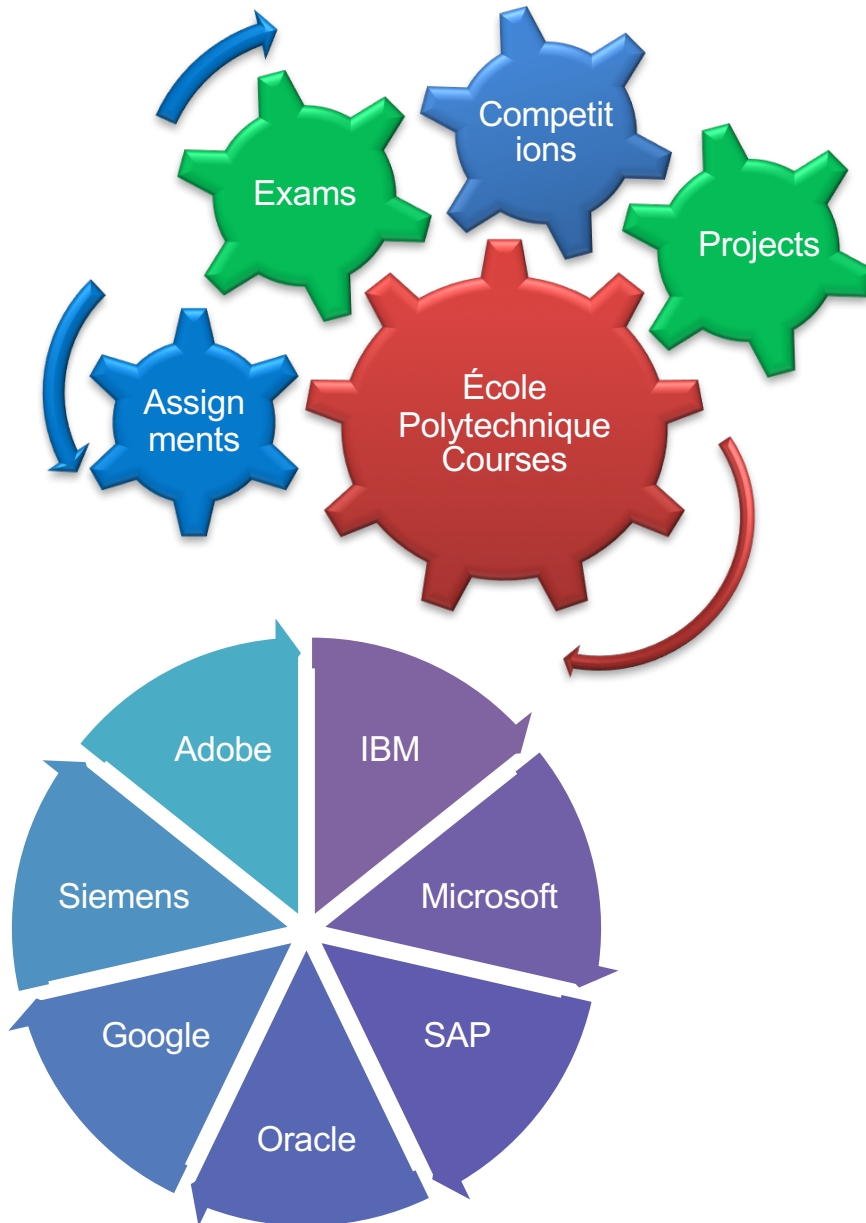
Professional

**Motivation**

**Short term goals** (1-4 years): obtain excellent research and professional results in computer science related fields

**Medium term strategy** (4-7 years): achieve the highest level of understanding and overview of technology development and usability

**Long term vision** (10+ years): career and development in management of technology



Computer architecture



Distributed systems



Internet technologies



Security of information systems



Software architecture



Data modeling



Interoperability



Requirements analysis



Project management

## A. Why Siemens?

- ✓ Internship description match personal qualifications
- ✓ Right IT learning platform
- ✓ Highest quality demands
- ✓ Skills development
- ✓ Both professional and research perspectives
- ✓ Efficiency and responsibility
- ✓ Working in a rapidly growing sector: renewable energy
- ✓ Headquarters location
- ✓ Professional recommendations
- ✓ Contract details: working hours, salary, insurance

## B. Why Denmark?

- ✓ Excellent working and living conditions
- ✓ Technology orientation and extended use
- ✓ Balance between personal and professional life
- ✓ Cultural change (and challenge)

# V. A. Why Siemens? (1)

Strong presence around the globe





## Siemens organizational characteristics and targets

New business models	Market	Stimulus programs	Major projects / visions
<ul style="list-style-type: none"> <li>▪ Megawatt vs. "Negawatt"</li> <li>▪ "Negative" electricity prices</li> <li>▪ "Prosumers"</li> <li>▪ New market participants in energy industry</li> <li>▪ Smart Grid</li> </ul>		<ul style="list-style-type: none"> <li>▪ 600 billion EUR</li> <li>▪ 790 billion USD</li> <li>▪ 4 trillion RMB (10 RMB = 1 EUR)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Wind power grid in North Sea</li> <li>▪ Off-shore wind power in GW range</li> <li>▪ 260 MW tidal power plant in South Korea</li> <li>▪ Zero-Emission- / Zero-Waste- / E-Mobility-Cities (Masdar)</li> <li>▪ Desertec / Transgreen</li> <li>▪ Nuclear power plant in UAE</li> <li>▪ Floating power plants</li> </ul>
<h3>Technological innovations</h3> <ul style="list-style-type: none"> <li>▪ Electromobility</li> <li>▪ Photovoltaics: On the way to grid parity</li> <li>▪ 800 kV HVDC in China</li> <li>▪ Deep-sea Oil &amp; Gas / Deep-sea mining</li> </ul>		<h3>Global framework conditions</h3> <ul style="list-style-type: none"> <li>▪ "Hopenhagen" – binding international guidelines uncertain</li> <li>▪ 20-20-20 target</li> <li>▪ 29 states with targets for electricity from renewables (5–33% by 2020)</li> <li>▪ For every GDP point ~40% less CO<sub>2</sub> emissions by 2020</li> </ul>	

## A. Siemens Wind Power headquarters

- ✓ 6800+ employees worldwide: Denmark, Germany, UK, U.S.A., Brazil, China
- ✓ 2700+ employees working in central Denmark
- ✓ Projects all-over the world
- ✓ Managing all divisions and global processes
- ✓ Very good training and development courses

## B. IT infrastructure

- ✓ Large software enterprise platforms
- ✓ Automation of processes and workflow
- ✓ Creating more and more standardized IT tools
- ✓ Managing complexity of IT systems

## C. Green enterprise

- ✓ Cloud-computing
- ✓ Investment in sustainable technologies
- ✓ “Green IT” = increased energy efficiency in IT infrastructure management

## A. Cultural change

- ✓ Egalitarian society
- ✓ Social horizontal structure
- ✓ Communication in English

## B. Business etiquette and protocol

- ✓ Necessity of appointments
- ✓ Time and punctuality
- ✓ Best solution preferred

## C. Living in Brande

- ✓ Warm atmosphere
- ✓ Calm and relaxing place

## D. Technology point of view

- ✓ “Green” orientation
- ✓ Global market and international partnerships

VI.A. My expectations

VI.B. Internship as a learning process

VI.C. Internship phases

VI.D. Completion of assignments

VI.E. Work experiences

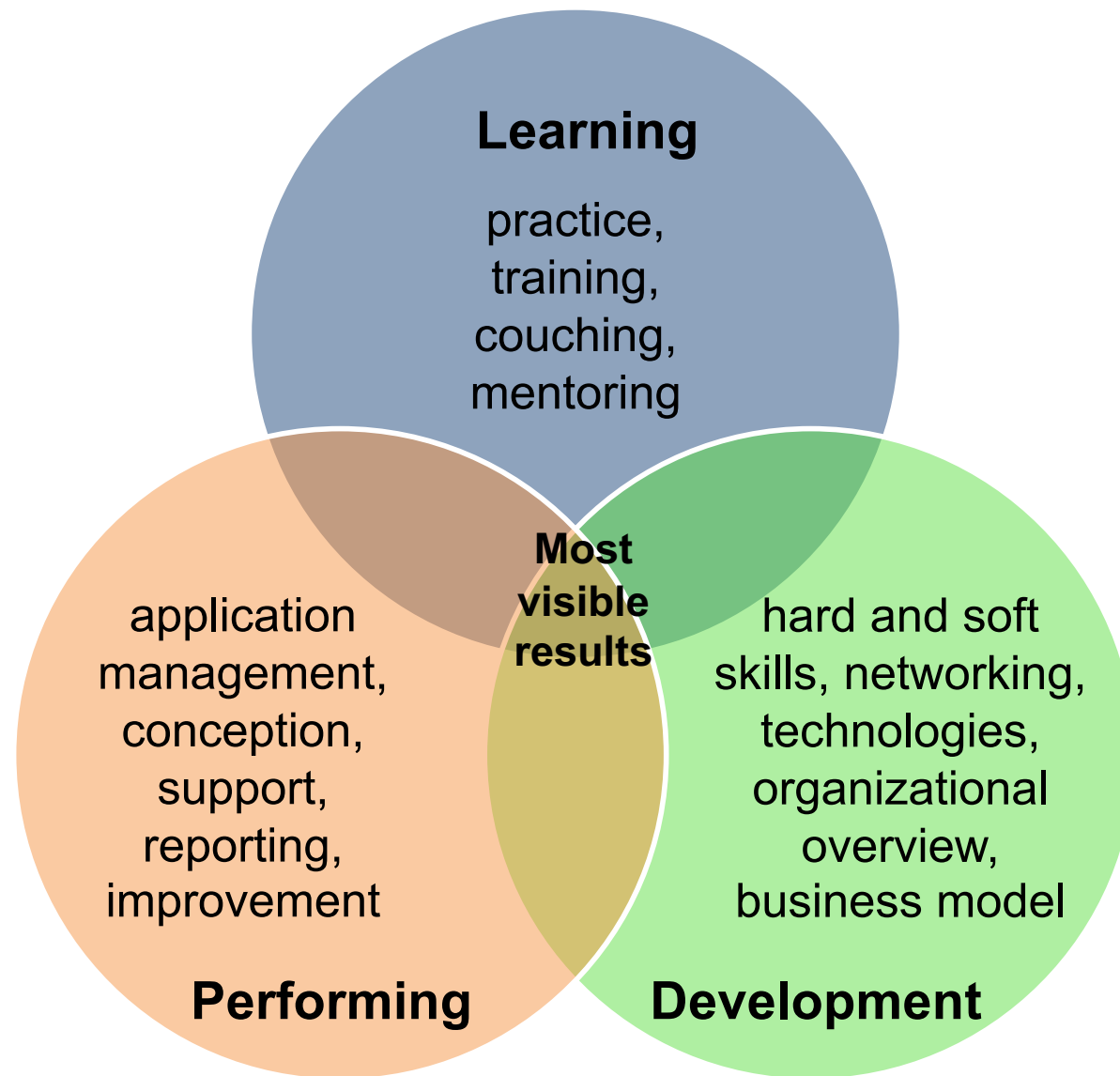
VI.F. Results and achievements

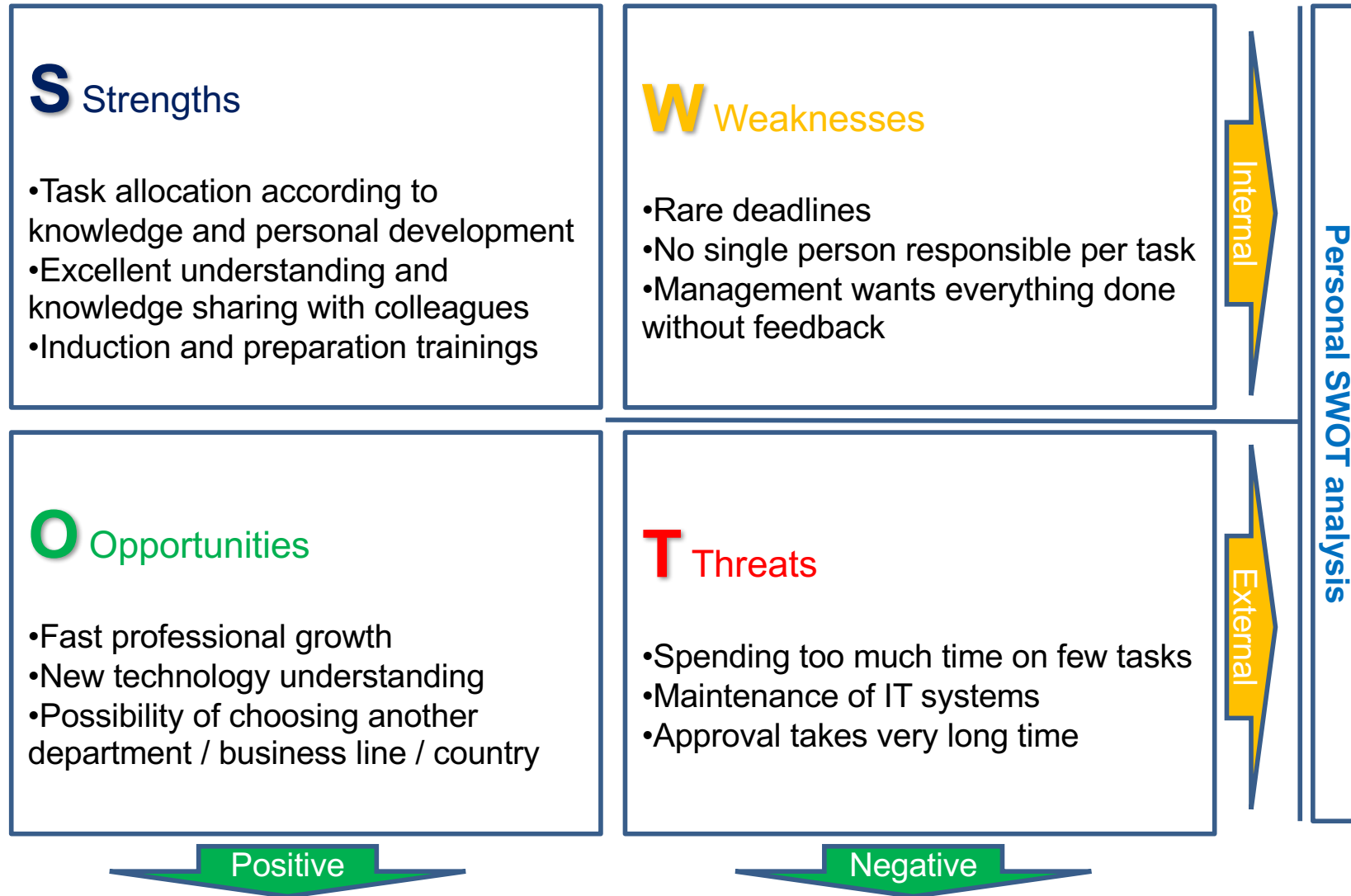
VI.G. Impact of my work

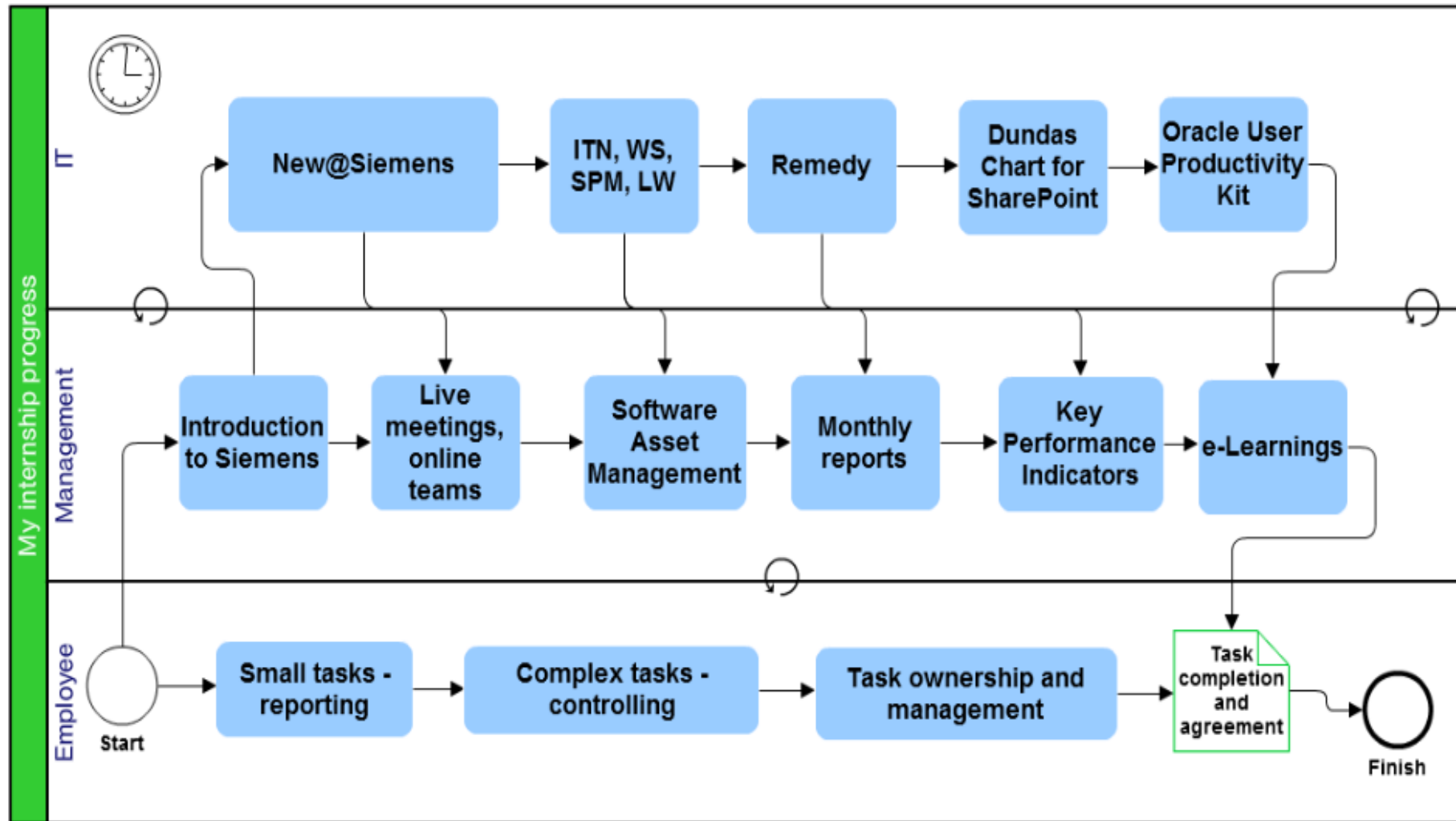
VI.F. Mentorship



## VI. A. My expectations









**Assignments** usually presumed having a predefined **objective, customer, target and quality levels.**

**Activities** grew in **complexity, duration and level of responsibility.**

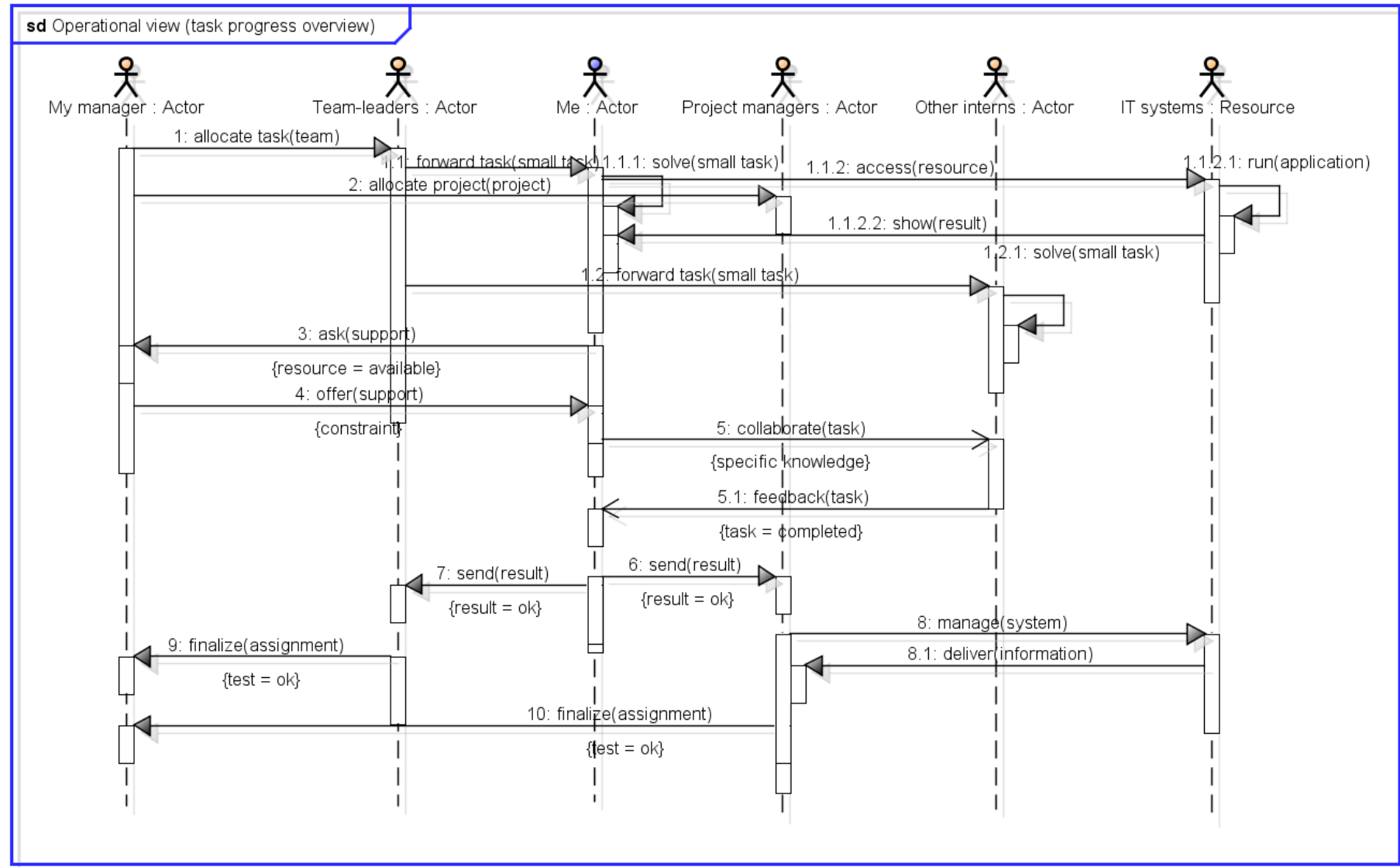
### Several examples:

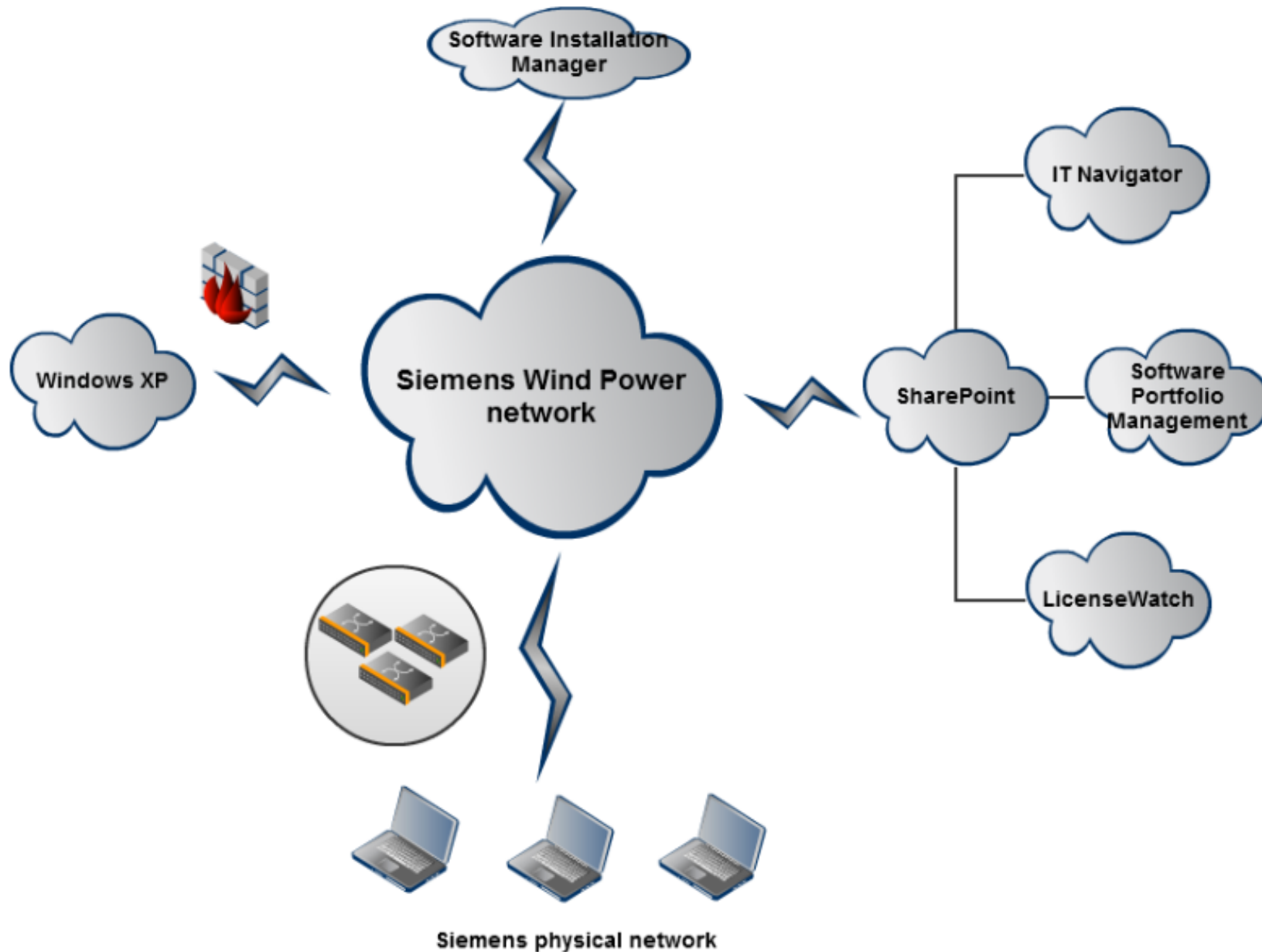
- ✓ management of applications
- ✓ cost-center visual reporting
- ✓ conceiving organizational KPIs
- ✓ web applications overview
- ✓ building up documentation
- ✓ defining the planning and process for large projects
- ✓ create test cases
- ✓ implementation of the final solution





## VI. D. Completion of assignments (2)





### Siemens

1. Service Portfolio Management
2. Software Installation Manager
3. LicenseWatch
4. IT Navigator
5. SAM@Siemens
6. SAM\* and UWEB
7. TrueCrypt
8. InfoSec trainings

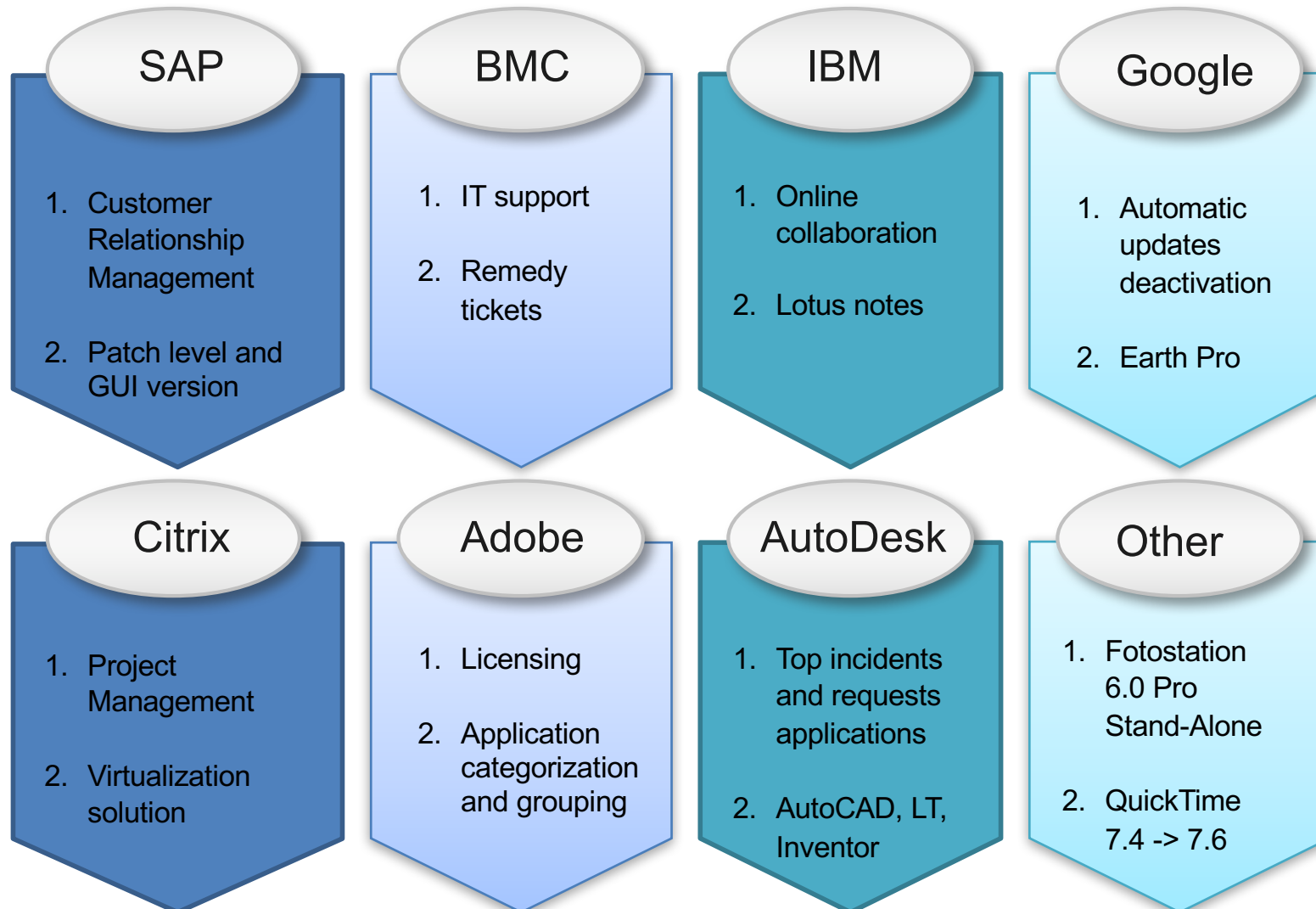
### Oracle

1. OnDemand 8.7 -> 9.1
2. User Productivity Kit 3.5.1.0 -> 3.6.0.1
3. E-Learnings
4. Other software recordings
5. Documentation and guidelines
6. CAT and non-CAT computers configuration
7. planning, resource allocation, notifications, library migration, trainings

### Microsoft

1. Windows XP and 7
2. Office: Outlook, Access, Excel, Communicator, InfoPath, PowerPoint, Word
3. SharePoint Portal and Services (key performance indicators in Excel and Dundas Chart)
4. Office 2007 and 2010
5. Internet Explorer 8 testing

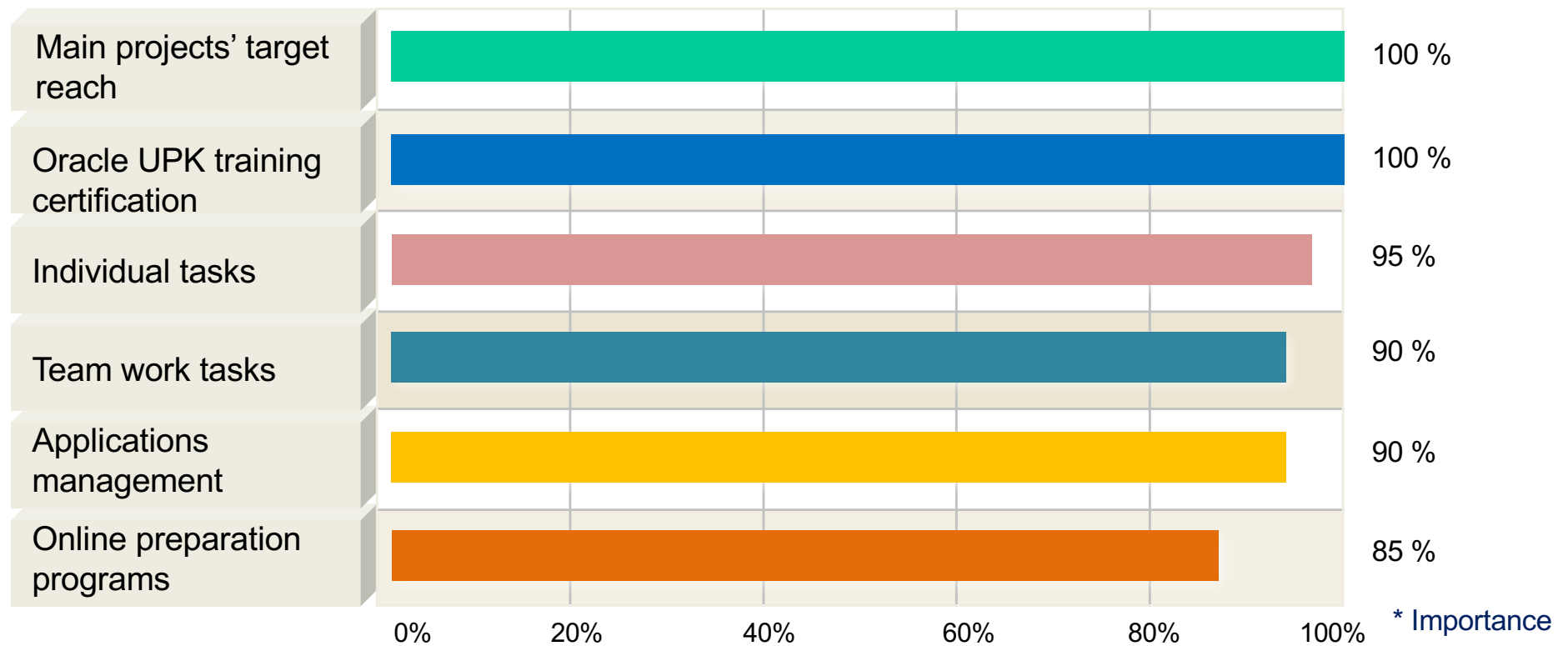
Design, configuration, test, use, documentation, applications management



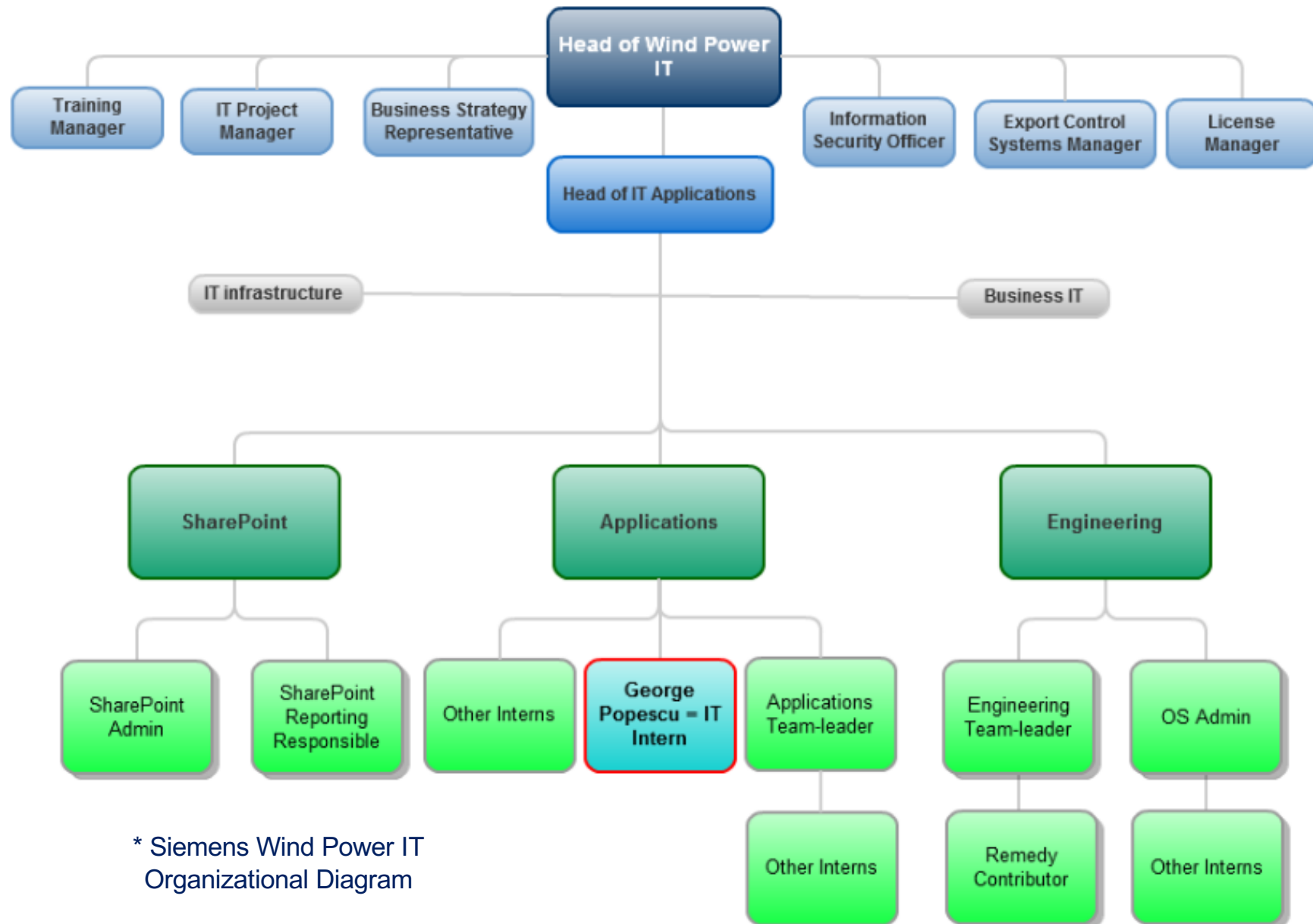
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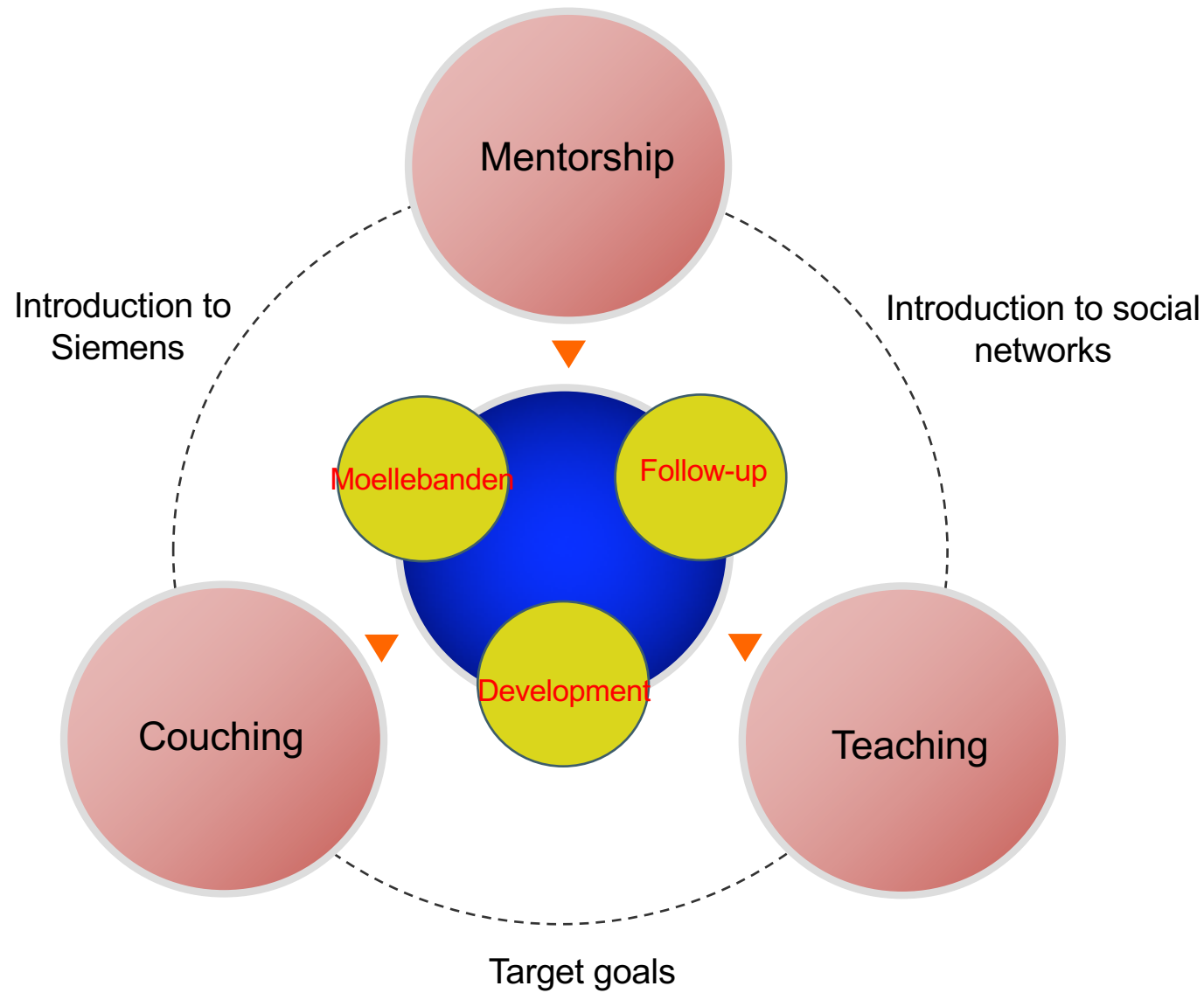
My greatest **achievements** were correlated with **knowledge**, **user expertise** and **skills gained**. I managed **duties of high complexity and diversity** through which I developed both **hard** (information management, requirements and needs analysis, filtering, interrogation) and **soft** (presentation, public speech, chat, off-line communication) **skills**.



# VI. G. Impact of my work



\* Siemens Wind Power IT  
Organizational Diagram



## Recommender technology at École Polytechnique Fédérale de Lausanne\*

- ✓ Interview during mid-term of the internship
- ✓ Confirmed as **research assistant and doctorate student** starting the **1st of October 2010** for the **next 4 years**
- ✓ Research between October 2010 and February 2011



\* Everything I have done at both **academic** (the high standards in teaching and learning **École Polytechnique**, the quality of **information, tasks, assignments** and especially **the way of rational thinking** have been decisive for my development and skills) and **professional** levels until now helped me achieve this great success.



1. My internship = Complete success
2. It extended my understanding of complex IT systems and applications management
3. I gained excellent coordination, planning, presentation and time management skills
4. It was in accordance with my Master's program: requirement analysis, collaboration, networking, security, sharing, database, e-learning, training, content management, web-editing
5. I performed multi-disciplinary activities
6. I activated in an international environment
7. It trained me for my next years of research



# Pictures – wind turbines (1)



Figure 1: Siemens on-shore turbines in central Denmark





Figure 2: Wind turbine revision after construction



## Pictures – wind turbines (3)



Figure 3: Crossroads wind power plant near Oklahoma, USA

## Pictures – wind turbines (4)



Figure 4: Siemens off-shore turbines as part of Denmark's largest offshore wind power plant (400 MW Anholt wind farm)



Figure 5: Siemens off-shore turbines close to the Norwegian coast



Figure 6: Siemens off-shore turbines 20km away North from Copenhagen





Figure 7: Siemens power-unit check-up in the nacelle



Figure 8: Blade transportation across railway





Figure 9: Long-term collaboration contract sign by Siemens and DONG Energy in Denmark



Figure 10: Management meeting at Siemens Wind Power





Figure 11: The Prince Consort of Denmark, Henrik, visiting the head-quarters of Siemens Wind Power



Figure 12: View of the Siemens Wind Power head-quarters (main building)





Figure 13: View from across the reception at the main entrance at Siemens Wind Power head-quarters





Figure 14: All employee meeting in the largest meeting room



# Thank you!



Thank you for your attention,  
questions, comments and inputs!