Management of IT applications at Siemens Wind Power

Internship Report Presentation

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I. Introduction

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

**Period:** 15\textsuperscript{th} of March – 14\textsuperscript{th} 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
III. My career interests

Motivation

Personal

Professional

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
IV. Theoretical background of information systems

- Computer architecture
- Distributed systems
- Internet technologies
- Security of information systems
- Software architecture
- Data modeling
- Interoperability
- Requirements analysis
- Project management

École Polytechnique, Paris, France – CoMaSIC 6
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)
Strong presence around the globe

V. A. Why Siemens? (1)
Siemens organizational characteristics and targets

<table>
<thead>
<tr>
<th>New business models</th>
<th>Market</th>
<th>Stimulus programs</th>
<th>Major projects / visions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Megawatt vs. &quot;Negawatt&quot;</td>
<td><img src="image" alt="Graph" /></td>
<td>• 600 billion EUR</td>
<td>• Wind power grid in North Sea</td>
</tr>
<tr>
<td>• &quot;Negative&quot; electricity prices</td>
<td></td>
<td>• 790 billion USD</td>
<td>• Off-shore wind power in GW range</td>
</tr>
<tr>
<td>• &quot;Prosumers&quot;</td>
<td></td>
<td>• 4 trillion RMB (10 RMB = 1 EUR)</td>
<td>• 260 MW tidal power plant in South Korea</td>
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<tr>
<td>• New market participants in energy industry</td>
<td></td>
<td></td>
<td>• Zero-Emission- / Zero-Waste- / E-Mobility-Cities (Masdar)</td>
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<tr>
<td>• Smart Grid</td>
<td></td>
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<td>• Desertec / Transgreen</td>
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<table>
<thead>
<tr>
<th>Technological innovations</th>
<th>Global framework conditions</th>
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<tbody>
<tr>
<td>• Electromobility</td>
<td>• &quot;Hopenhagen&quot; – binding international guidelines uncertain</td>
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<tr>
<td>• Photovoltaics: On the way to grid parity</td>
<td>• 29 states with targets for electricity from renewables (5–33% by 2020)</td>
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<tr>
<td>• 800 kV HVDC in China</td>
<td>• For every GDP point ~40% less CO₂ emissions by 2020</td>
</tr>
<tr>
<td>• Deep-sea Oil &amp; Gas / Deep-sea mining</td>
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</table>
V. A. Why Siemens? (3)

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
V. B. Why Denmark?

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. My internship at Siemens Wind Power

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

**Learning**
- practice,
- training,
- coaching,
- mentoring

**Performing**
- application
- management,
- conception,
- support,
- reporting,
- improvement

**Development**
- hard and soft
- skills,
- networking,
- technologies,
- organizational
- overview,
- business model

**Most visible results**
VI. B. Internship as a learning process

**S** Strengths
- Task allocation according to knowledge and personal development
- Excellent understanding and knowledge sharing with colleagues
- Induction and preparation trainings

**W** Weaknesses
- Rare deadlines
- No single person responsible per task
- Management wants everything done without feedback

**O** Opportunities
- Fast professional growth
- New technology understanding
- Possibility of choosing another department / business line / country

**T** Threats
- Spending too much time on few tasks
- Maintenance of IT systems
- Approval takes very long time
VI. C. Internship phases

- New@Siemens
- ITN, WS, SPM, LW
- Remedy
- Dundas Chart for SharePoint
- Oracle User Productivity Kit

My Internship progress:
- Introduction to Siemens
- Live meetings, online teams
- Software Asset Management
- Monthly reports
- Key Performance Indicators
- e-Learnings

Employee:
- Start
- Small tasks - reporting
- Complex tasks - controlling
- Task ownership and management
- Task completion and agreement

Finish
VI. D. Completion of assignments (1)

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)

[Diagram of a workflow process involving actors such as My manager, Team-leaders, Ma, Project managers, Other interns, and IT systems, detailing steps like allocate task, forward task, solve small task, access resource, run application, show result, and finalize assignment.]
VI. E. Work experiences (1)
VI. E. Work experiences (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
VI. E. Work experiences (2)

**SAP**
1. Customer Relationship Management
2. Patch level and GUI version

**BMC**
1. IT support
2. Remedy tickets

**IBM**
1. Online collaboration
2. Lotus notes

**Google**
1. Automatic updates deactivation
2. Earth Pro

**Citrix**
1. Project Management
2. Virtualization solution

**Adobe**
1. Licensing
2. Application categorization and grouping

**AutoDesk**
1. Top incidents and requests applications
2. AutoCAD, LT, Inventor

**Other**
1. Fotostation 6.0 Pro Stand-Alone
2. QuickTime 7.4 -> 7.6

Design, configuration, test, use, documentation, applications management
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
VI. H. Mentorship

Introduction to Siemens

Introduction to social networks

Moellebander

Follow-up

Development

Couching

Teaching

Target goals
VII. My future (PhD)

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
Figure 3: Crossroads wind power plant near Oklahoma, USA
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 for your attention, questions, comments and inputs!