

# "Design Patterns in C#"

*Agilent Special Course*

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**TEKNOLOGISK**  
**INSTITUT**

# Presentation

- ▶ Name
- ▶ Company affiliation
- ▶ Area of expertise
- ▶ Design Patterns experience
- ▶ Expectations for the course

# Prerequisites

- ▶ Working knowledge of newest C# and Visual Studio
  - Object-oriented development
    - Classes
    - Inheritance
  - Interfaces
  - Delegates
  - ...
- ▶ Interest in structuring your code nicely 😊
- ▶ Experience in C#
- ▶ Some knowledge of WPF for Day 2

# "Selected Gang of Four Design Patterns in C#" – Day 1

- ▶ 00 – Course Outline
- ▶ 01 – What Are Design Patterns?
- ▶ 02 – Abstract Factory
- ▶ 03 – Builder and Fluent API
- ▶ 04 – Decorator
- ▶ 05 – Façade
- ▶ 06 – State
- ▶ 07 – Observer
- ▶ *If Time Permits:* 08 – Command

# "Data-centric and Application Patterns in C#" – Day 2

- ▶ 09 – Repository (including EF intro)
- ▶ 10 – Unit of Work
- ▶ 11 – Proxy (including Caching Lab)
- ▶ 12 – Introduction to MVVM
- ▶ 13 – MVVM Problems and Patterns
- ▶ *If Time Permits:* 14 – The SOLID Principles

# Course Material

- ▶ Background Material
  - Erich Gamma, Richard Helm, Ralph Johnson, and John Vlissides: *"Design Patterns: Elements of Reusable Object-Oriented Software"*
  - Martin Fowler: *"Patterns of Enterprise Application Architecture"*
  - Martin Fowler's Patterns page: <http://www.martinfowler.com>
- ▶ Slides
- ▶ Examples for every module and Case Study
- ▶ Labs (and lab solutions) for every module
- ▶ Course evaluation after Day 2

# Practical Information

- ▶ Each course day will be from 8.30 to 16.30
- ▶ Breaks
- ▶ Any questions...?



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