

# Odin Forge

Develop custom software while reducing time, cost, and complexity.

[abacusgroup.io](https://abacusgroup.io)

SOFTWARE ENGINEERING



## Solution Brief

# Odin Forge

**Odin Forge** is **Abacus'** proprietary framework designed to accelerate the development of custom software solutions where tailored applications represent the most effective approach. It enables organizations to build digital applications using reusable base code, application modules, and automated development workflows, reducing delivery time and costs while improving overall software quality.

## The Challenge

Traditional custom software development often requires long delivery cycles, high costs, and significant technical risks.

### Typical challenges include:

- Development from scratch without component reuse
- Long analysis, development, and testing cycles
- Integration complexity with existing systems
- Limited standardization and inconsistent quality

This reduces organizations' ability to innovate quickly.

## The Solution

**Odin Forge** introduces an industrialized approach to software development for organizations that need to deliver custom solutions in a faster and more structured way.

Built on reusable modules, code generators, and proven architectures, it enables the development of management applications, IoT platforms, web applications, and mobile solutions from a shared foundation — reducing time and cost while improving delivery quality.

## Core Components

- Reusable modular base code
- Code generators for standard functionalities
- Microservices and API-first architecture
- Integration with enterprise systems and devices
- DevOps pipelines (CI/CD, containers, cloud)

## Application Areas

- Enterprise applications and business portals
- IoT and Industry 4.0 platforms
- Energy and process monitoring
- Web and mobile applications

## Business Impact

- Reduced time-to-market
- Lower development costs
- Improved quality and standardization
- Greater scalability of digital solutions



## Case Study

# Accelerating Custom Software Development

A manufacturing company with complex operational processes needed to develop a custom management system integrated with production machinery and existing ERP systems.

## The Challenge

- Development of a fully custom management platform
- Integration with existing systems and field devices
- Need to reduce project time and costs

## The Solution

**Abacus** used **Odin Forge** as the development framework to accelerate custom software delivery while maintaining flexibility and control over the final solution.

The project was built using reusable modules, code generators, and an API-first architecture, reducing manual effort and accelerating the development lifecycle.

## Implementation

- Domain entity modeling
- Generation of application components
- CRM integration
- Development of restricted-access areas and content management



## Results

- Significant reduction in development time and costs
- Improved software quality and consistency
- Effective integration with existing systems

## Industry

Manufacturing Industry-  
Custom Software



## Architecture

# Architecture Overview

**Odin Forge** is based on a modular and scalable architecture designed to support the development of custom software solutions.

## Core Layers

### Field Layer

**Data management and historization,** with separation between master data and operational or historical data

### Data Layer

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### Presentation Layer

**Service exposure through REST APIs** and interfaces for web applications, mobile applications, and third-party systems.

## Core Components

- Backend microservices (Node.js, TypeScript)
- Data processing services (Python)
- Web frontend (Vue.js)
- Messaging queues (e.g., RabbitMQ)
- Flexible databases (MongoDB, InfluxDB, SQL)

## DevOps & Deployment

- Docker-based containerization
- Cloud orchestration (AWS, Kubernetes)
- Automated CI/CD pipelines
- Infrastructure as Code (Terraform)



## Security & Governance

- Centralized authentication (SSO, JWT)
- Access and role management
- Service auditing and monitoring

## Output

A reusable and scalable software infrastructure enabling the rapid development of integrated and custom digital

# One Abacus. Many Minds. One Vision.

Discover how **Odin Forge**  
can accelerate the development  
of your software solutions.



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