D3 Engineering

PRODUCT DEVELOPMENT SERVICES

YOUR FASTEST, LOWEST-RISK PATH TO MARKET

Next-generation systems increasingly demand connected, embedded intelligence. From autonomous vehicles and smart cities, to collaborative robots and factory automation—devices everywhere need to sense, analyze, and respond to complex environments in interconnected systems.

D3 Engineering helps OEMs meet this demand. We augment your new product development team's unique core competence with our expertise in advanced vision, sensor, and control system technologies.

With our specialized design skills, proven technologies, and reliable process, we help you pave the fastest, lowest-risk path to market.

OUR DIFFERENCE

Expertise in electronic system design for autonomous systems, connected automation, and embedded vision

Proven technology embodied in our DesignCore™ Platforms and Reference Designs

Proven development process demonstrated to minimize technical-, schedule-, and cost-risk

YOUR BENEFITS

Adopt new, advanced technologies for first-mover advantage with less risk

Enhance shareholder value with lower total cost of new product development

Protect your intellectual property with a trusted development partner

Gain a reliable partner with technical excellence and effective collaboration to augment your development team

EXPERTISE IN PERFORMANCE-CRITICAL SYSTEMS

AUTONOMOUS SYSTEMS

Sensor fusion and navigation

Autonomous Systems sense, analyze, and respond to complex environments for greater productivity and safety. Collision avoidance and self-driving technologies protect people and property, while collaborative robots and factory automation decrease labor costs and increase operational efficiencies. Autonomous Systems open a world of new market opportunities for vehicle and industrial equipment manufacturers.

CONNECTED AUTOMATION

Networked power and motion

Connected Automation harnesses sensor data, M2M communication, machine learning, and real-time analytics and control. It powers the Industrial Internet of Things (IIoT) and is driving Industry 4.0. Applications range from more efficient industrial motor systems to smart factories and grid automation. Connected Automation improves quality, supports sustainable practices, and delivers enormous cost savings.

EMBEDDED VISION

Intelligent vision products

Embedded Vision can capture, analyze, and exploit visual information wherever your machines are deployed—from dedicated machine vision in factory automation, to cloud-connected cameras in the Internet of Things (IoT). Embedded Vision adds value to your products by giving your users more power to see and control their world.

D3'S PROVEN PROCESS MINIMIZES RISK, DELIVERS RESULTS

When you choose an outsourced product development partner, you know you need a partner with **technical expertise.** You also need a partner with the **process expertise** to manage technical risks, control costs, keep on schedule, and collaborate effectively with your development team.

D3 Engineering brings both technical and process expertise to your new product development team. We have refined our product development process and proven its effectiveness in hundreds of successful projects over nearly two decades. Our methodical process, combined with our DesignCore™ Platforms and Reference Designs, minimizes your project risk. You can be confident that your technical, schedule, and cost requirements are being met at every step of the way.

OUR PROVEN STAGE-GATE DESIGN PROCESS

Define

We start by working with you to develop product requirements and specifications.

EVT **YOU RECEIVE ENGINEERING VERIFICATION TEST UNIT**

Engineering prototype based on our DesignCore™ Platforms.

Design

Next we design hardware and firmware using a structured design-for-manufacture (DFM) process.

DVT **YOU RECEIVE DESIGN VERIFICATION TEST UNIT**

Fit/form/function prototype that demonstrates all features using production components.

Deploy

Then we transfer the complete hardware and software design to you as well as support any production needs.

PVT **YOU RECEIVE PRODUCT VERIFICATION TEST UNIT**

Flexible: may be built by D3 or client. D3 assists with validation and manufacturing optimization.

DEFINE, DESIGN, DEPLOY

We start with a detailed project plan showing the tasks, deliverables, schedules, and resources to be addressed at multiple stages within each phase of the design process. This plan is based on our master template, which has been repeatedly tested and proven to be comprehensive and efficient.

Multiple stage-gate reviews within each phase serve as formal checkpoints. You have the opportunity to verify requirements compliance, update any elements of the project plan, and approve progression to the next stage. This methodical stage-gate process helps to control risk and ensure quality.

We provide a verification-tested deliverable at the end of each phase. The **Engineering Verification Test** unit addresses identified technical risks and allows us to begin long-lead software tasks. The **Design Verification Test** unit is fit, form and functionally equivalent to your final product. The **Product Verification Test** unit supports your pilot production.

DESIGNCORE™ PLATFORMS ACCELERATE DEVELOPMENT

Our validated DesignCore™ Reference Designs accelerate time to market and reduce technical risk. Starting with these validated designs and customizing them to your needs, we can quickly incorporate advanced technologies with fewer “unknowns” than you would face with an expensive, full-custom project. At the same time, the DesignCore™ Platform approach gives you more flexibility than you get with over-constrained, off-the-shelf solutions.

PROJECT MANAGEMENT, COMMUNICATION, AND RISK MANAGEMENT STREAMLINE THE PROCESS

An account manager, project manager, and lead systems engineer are responsible for your project from start to completion. Additional engineers and technicians with expertise in hardware, firmware, and software design, production, and testing are assigned to the team as needed.

You have continuous access to a comprehensive set of collaboration tools that allow you to monitor all aspects of your project, including budget reports, risk registers, action and issue trackers, deliverables, and milestones. In addition, your account manager will hold regular meetings to review your project with you, following an established communications plan.

D3 Engineering takes a very aggressive approach towards risk management. Your core team members collaborate amongst themselves and with you to continuously monitor, identify, and assess new and ongoing risks, and to develop mitigation plans to address those risks. The risk register is updated at least bi-weekly during internal project reviews.

CLEAR AGREEMENTS PROVIDE TRANSPARENCY AND IP PROTECTION

Our Services Agreements and Statement of Work templates are comprehensive, easy-to-understand documents that clearly spell out what you can expect. These documents eliminate surprises.

The Master Services Agreement addresses intellectual property (IP) protection, mutual obligations, confidentiality, ownership and licensing of technology, representation, warranties, limitations of indemnification, and general terms and conditions. The Statement of Work addresses your requirements, our technical approach, a work breakdown structure, schedules, milestones, deliverables, costs, and specific terms.

In most cases, we include a license agreement effecting perpetual, unrestricted use of any D3 Engineering technology that we incorporate in the design. We make it clear that you own the design and that your IP is protected.

GET STARTED

Learn more about how we can help you incorporate advanced vision, sensor, and control system technologies into your new products. Contact **sales@D3Engineering.com** for a detailed guide on our Product Development Services and how our process minimizes the technical-, schedule-, and cost-risk of embedding these technologies.

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