Innovation is in our DNA

A trusted partner to leading firms

17 of the ENR Top 20 Design Firms
14 of the ENR Top 20 Environmental Firms
17 of the ENR Top 20 General Contractors
8 of the top 10 Automotive companies

Autodesk has been recognized by Fast Company in its list of the World’s Most Innovative Companies1

Global Consulting Practice

- Data to Insights
- Platform for New Business
- Future of Work
- Sustainability
- Process Automation

Autodesk R&D Spend

<table>
<thead>
<tr>
<th>Year</th>
<th>Spend</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY19</td>
<td>$717M</td>
</tr>
<tr>
<td>FY20</td>
<td>$824M</td>
</tr>
<tr>
<td>FY21</td>
<td>$882M</td>
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</tbody>
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1. The 10 Most Innovative Data Science Companies of 2020
INNOVATION AREAS

Autodesk Consulting is focused on driving cross-industry innovation in 5 key spaces
DATA TO INSIGHTS

Draw actionable insights with data analytics & machine learning

Innovation Use Cases

Model Insights
MANAGE MODEL DATA & CONTENT QUALITY
Improve quality and reliability, reduce errors and rework, improve forecast accuracy

Process Insights
TRACK METRICS & OPTIMIZE PERFORMANCE
Reduce non-value-add processes, manage complexity, optimize schedule duration

Business Insights
MAKE DATA-DRIVEN DECISIONS
Increase revenue, maximize team resource utilization, improve win rate
The Data Harvester connects cloud data in the BIM 360 platform to enterprise system dashboards with near real-time automation.

**Challenge:** Connect BIM data to enterprise systems, balanced complexity with UI simplicity

**Solution:** Created innovative yet configurable data connection solution solving multiple use cases

**Outcome:** Mission critical data integration and visibility of large data sets in dashboards

“The automated process saves us a significant amount of time (6.7M USD annually) ...data daily enables us to strategically prioritize our resources and solve problems quickly and efficiently over a wide variety of projects.”

Maggie M
Global Technology & Services Company
Organizing all data across all projects, the Model Development Suite enables a common data environment with specification, management and checking tools.

**Challenge:** Create standard information taxonomy for BIM

**Solution:** Starting small, looked for ways to normalize data standards. Through iterative and agile approach built a family of tools around data

**Outcomes:** Data interoperability and data hygiene, critical to efficiency & government regulations

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“We anticipate >£1m savings on each one, potentially even increasing as Highways England increases the complexity of information delivery on their projects.”

Transportation Consultant, UK
PLATFORM FOR NEW BUSINESS

Expand your products and services using the Autodesk platform

Innovation Use Cases

Digital Twin Services
ASSET PLANNING SERVICES FOR OWNERS
Reduce CAPEX, OPEX, maintenance, and replacement costs

Operational Services
IN-HOUSE SERVICES FOR PROJECT TEAMS
Improve operational efficiency, reduce non-value-add processes, manage complexity

Product Configuration Services
CONFIGURABLE PRODUCT CATALOGS
Enhance customer experience, diversify revenue streams, improve operational efficiency
**Success Story: JELD-WEN**

JELD-WEN increases its online product display from 30% to 90% with a custom-built tool.

**Challenge:** Product required up to 120,000 assets that need to be generated manually, then need to be named, managed, uploaded to the cloud, and entered in a database.

**Solution:** Custom Autodesk® Forge® configurator for web connects to products using Autodesk® Fusion 360®, managing relevant data and generating visualizations automatically.

**Outcome:** 700 hours of time saved in the overall workflow for existing products; for new products, process was reduced from up to 10 weeks to a maximum of 3 weeks.

“Within our industry, no one else is doing this. It was a pioneer project for us. That's why we partnered with Autodesk... Our customers love it. They love the fact that they can see the product online, which allows for more inspiration.”

Terry Davis,
Director of Digital Marketing, JELD-WEN
FUTURE OF WORK

Strengthen your resiliency with agile operating models

Adaptable Collaboration
RAPIDLY & SEAMLESSLY REDEPLOY TEAMS
Ensure business continuity, increase workload capacity, improve remote collaboration

Virtual Environments
REMOTE ACCESS TO ON-FIELD ASSET DATA
Analyze real-time information and augment capacities with multi-sensory experiences

Health & Safety Protocols
AI & ROBOTICS FOR SAFETY CHECKS
Ensure safety on the jobsite and factory floor, assess risk, and redirect resources
AECOM leverages BIM 360 Design to realize 20% time-savings on global collaboration.

**Challenge:** Collaborators were unable to access work via the project server, which required using a server at another location to share large files at project milestones.

**Solution:** Implementation of cloud-based environment that enabled teams to collaborate simultaneously on live models.

**Outcome:** 20% improvement in production time for 8 work packages delivered in final 6 weeks of project.

“The adoption of BIM 360 Design on this project simplified the workflow immensely for external work-sharing, the old workflow of file handovers created a real risk to project deadlines. Having real-time access to the project status resulted in greater confidence across the project team.”

Ben May
BIM Manager, Melbourne Office
SUSTAINABILITY

Ingrain sustainability into your business processes

Innovation Use Cases

High Performance Buildings
EMBEDDED INTELLIGENCE
Optimize a building’s energy efficiency, durability, life-cycle performance and occupant productivity

Resilient, Smart Infrastructure & Cities
IOT, AI, 5G, BLOCKCHAIN
Develop roads, buildings, energy, and water infrastructure with due consideration to environment

Low-Waste Construction & Manufacturing
DIGITAL PROTOTYPING, INDUSTRIALIZED CONSTRUCTION
Reduce material consumption and total carbon footprint
Success Story: Claudius Peters

With Autodesk® Fusion 360™, Claudius Peters re-designs key manufacturing part, reducing material by 25%

Challenge: Reduce material used for concrete cooling equipment “Clinker Cooler”

Solution: Fusion 360 for digital prototyping to optimize key part of conveyor system based on constraints

Outcome: Generated part with 25% reduction in material used and improved structural integrity

"With the great team at Claudius Peters and with Autodesk as a strong partner on our side, we achieved remarkable results and improvement on our innovation journey. We are convinced that if we continue our journey with partners like Autodesk, we will avoid extinction or disruption, and we will stay competitive in the market."

Thomas Nagel
Chief Digital Officer and Operations Director, Claudius Peters
PROCESS AUTOMATION

Improve your productivity through process automation

**Innovation Use Cases**

**Computational Design**
RULE-BASED MODELING
Automate repetitive tasks and decisions based on pre-defined parameters

**Generative Design**
ITERATIVE, OBJECT-DRIVEN DESIGN
Explore multiple design options to determine the optimal solution

**Machining Automation**
AUTOMATED TOOLPATHS & PARTS SETUP
Reduce manual CNC programming operations for subtractive manufacturing and automate parts setup
CivilConnection facilitates coordination between disciplines, using computational design to dynamically link buildings and civil infrastructure models.

**Challenge:** Model tunnels using BIM, coordinate between disciplines

**Solution:** Computational design solution allowing rapid coordination between Revit and Civil 3D

**Outcomes:** Radical efficiency gains, and a tool that was adopted by customers worldwide and the product team

"The only way an engineering company can keep up with the requests on a 450km rail project is through computational design, the model is just too big to rely on manual modeling."

Douglas, BIM Leader, RSA
DRIVING DIGITAL TRANSFORMATION

Advisory & Implementation Services offer flexible access to the full-breadth of the Autodesk Consulting practice

Direct
Work directly with Autodesk to co-solve today’s biggest design & make challenges

Flexible
Draw from our global team with expertise across products, industries, and markets

Easy
Easily schedule stand-ready consultants without amending or creating new contracts
SUCCESSFUL TRANSFORMATION

What kind of partnerships do you need to drive successful transformation?
Assess
Evaluate your current transformation strategy, processes, practices, and plans for implementation

Shape
Refine or define a strategy based on your business requirements and informed by Autodesk insight

Design
Define architecture from business, data, application, infrastructure, and integration perspectives

Validate*
Verify workflow automation, application integration, data connection, and API feasibility

Plan
Create a path to develop, integrate, and deploy the solution with visibility of key dependencies

Plan
Schedule, budget, and plan implementation activities in detail

Define
Define and document solution processes and workflows

Configure*
Adjust settings of standard software and configure content

Develop*
Sprint-based development using public APIs

Deploy
Install or upgrade Autodesk technology in the solution

Train
Train key users and project teams on the new solution

Support
Analyze and troubleshoot implementation related issues

*Not available for MAKE technology
¹Development environment only
20% Reduced design time
25% Reduced build time
50% Faster time to market

AECOM
SKANSKA
Schneider Electric

Read more
Read more
Read more