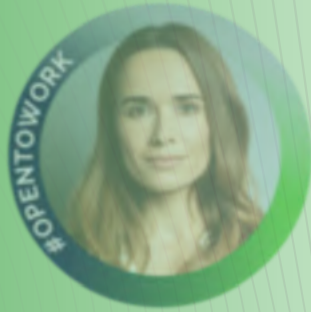


3 People You Need to Add to Your Product Development Team

Job Roles for Product Development Teams Adopting
Agile Methodologies





Product Development is an intricate process that involves the creation and commercialization of products, including ideation, design, engineering and marketing. The backbone of any successful business is a multifaceted team, one that involves people from different backgrounds and skillsets all working together to advance the product development process.

In today's market, the product development process is constantly evolving. These changes are based on a variety of stimuli, such as: customer feedback, market trends, or new technological advancements. The evolving nature of this industry has led to a change in the type of job roles needed. Namely, the inclusion of three job roles can drastically optimize a company's performance and revenue.

Since its inception, Onshape has leveraged agile methodologies and cloud technologies to help product development teams transform their resourcing and processes.

In this guide, we will illustrate three job roles that are driving the growth of products and balancing customer priorities with business goals.

With CAD technology that supports Cloud-Native workflows from early design through manufacturing and product launch, these roles are helping companies better compete by accelerating time-to-market.

THEY ARE:

- **The CAD Software Engineer**
- **The Technical Marketing Manager**
- **The Director of Digitalization**



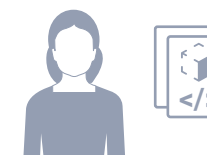
The CAD Software Engineer

It is highly likely that you have a mechanical engineer on staff with some aptitude for programming. In the same manner, it is also likely that your CAD solution has an API (application programming interface) and your mechanical engineering team leverages it. Such as authoring macros in your CAD software to automate small tasks.

Product development teams who adopt agile methodologies tend to go much further. They hire software engineers to support them to achieve the levels of feature customization, design process automation and software integration that they need to be most productive with their CAD software.



Mechanical Engineer
with basic programming experience.



Software Engineer
who supports mechanical team by developing custom CAD features, design automation and enterprise integrations.

Role - The CAD Software engineer will build and maintain a library of custom CAD features as productivity tools for the design team.

Responsibilities include,

- Take requirements from the mechanical and design teams to build custom CAD features, design and process automation and Enterprise integrations.
- Build custom CAD features which behave like native features, are complex and often interrelated in terms of sharing Part and Assembly meta-data.
- Build web-integrations between company software/systems and CAD data.

Skills include,

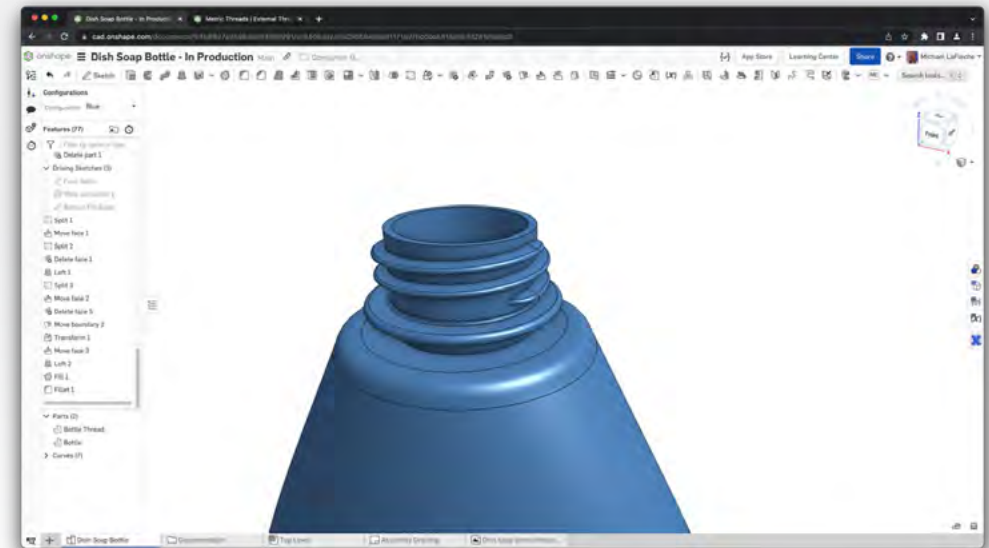
- BS in Computer Science
- Experience with Python, PHP, C# or Javascript
- Basic CAD knowledge (Nice to have but not required)

Sample projects include,

- Build design process automation to automate repetitive tasks requested of the design team like defeaturing CAD models for export to Simulation teams.
- Build native CAD features to extend the CAD software’s functionality to meet our companies specific needs such as custom surfacing tools.
- Automation of the creation of customized product specific documentation hosted on the web, integrated with company sales data and accessed via mobile devices for the manufacturing floor.

```

1 FeatureScript 376;
2
3 import {Cyl} from 'onshape/std/geometry', {Laves} from 'onshape/std/laves';
4
5 import {Laves} from 'onshape/std/laves';
6
7 annotation { "Feature Type Name" : "Metric External Threads" }
8
9 export const externalThreads = defineFeatureFunctionContext(is Context, id is Id, definition is Def)
10 {
11   annotation {
12     [ "Name" : "Cylinder End Face", "Filter" : EntityType.FACE is SketchObject.NO is BodyType.SOLID, "NumberOfPricks" : 1 ]
13     definition.cylinderEndFace is Query;
14
15     annotation { "Name" : "Cylinder Outside Face", "Filter" : EntityType.FACE is SketchObject.NO is BodyType.SOLID, "NumberOfPricks" : 1 }
16     definition.cylinderOutsideFace is Query;
17
18     annotation { "Name" : "Thread Pitch" }
19     isLength(definition.threadPitch, LENGTH.BOUNDS);
20
21     annotation { "Name" : "Left Handed Threads" }
22     definition.leftHandedThreads is Boolean;
23
24     annotation { "Name" : "Automatic Length" }
25     definition.autolen is Boolean;
26
27     if (definition.autolen)
28     {
29       annotation { "Name" : "Cut Through" }
30       definition.cutThrough is Boolean;
31     }
32     else
33     {
34       annotation { "Name" : "Thread Length" }
35       isLength(definition.threadLength, LENGTH.BOUNDS);
36
37       annotation { "Name" : "Chamfer Cylinder End" }
38       definition.chamferEnd is Boolean;
39
40       if (definition.chamferEnd)
41       {
42         annotation { "Name" : "Custom Chamfer" }
43         definition.chamferEqualLength is Boolean;
44
45         if (definition.chamferEqualLength)
46         {
47           annotation { "Name" : "Length" }
48           isLength(definition.threadLength, LENGTH.BOUNDS);
49         }
50       }
51     }
52   }
53 }
    
```



Learn FeatureScript, Onshape’s programming language with an integrated IDE, to develop software extensions to Onshape and web integrations

Explore Custom Features in Onshape

FEATURE SCRIPT

DOCUMENTATION

FEATURE SCRIPT TECH TIPS



The Technical Marketing Manager

Typically, the person who can just close their eyes and visualize a product in its entirety is the product manager, or lead engineer responsible for the product roadmap and deadlines.

Besides leading the development team, this person is often responsible for any internal communication and coordination with sales and marketing teams. More often than not, the knowledge gap is too large between technical and non-technical teams, and the product manager becomes a communication bottleneck as they are needed in all conversations.

Having a dedicated Technical Marketing Manager, paired with your Product Manager, has become a standard practice for increasing the technical communication bandwidth of agile product development teams. Empowered with tools to create photo-realistic renderings and marketing quality CAD drawings, Technical Marketing Managers can substantially accelerate product launch by training sales teams and preparing go-to-market content.



Product Manager or Mechanical Designer
with basic marketing experience.



Technical Marketing Manager
who is technically knowledgeable about the product, a strong communicator and supports sales and marketing teams.

The Technical Marketing Manager

Role - The technical marketing manager will be part of the product development team, paired with the product manager, who serves to support downstream teams like sales and marketing on Go-To-Market actions.

Responsibilities include,

- Learn the product portfolio and be self-sufficient to create technical imagery, marketing collaterals and product demonstrations.
- Support the Sales and Marketing teams communicate the products value through technical imagery and storytelling.
- Present the product to potential customers, communicate on behalf of the Product Manager and development team.

Skills include,

- Basic CAD skills.
- Creative storyteller, experience with rendering or photography a plus.
- Marketing skills, such as writing, blogging or website work.

Sample projects include,

- Create custom, company branded, marketing quality product documentation.
- Build high quality technical product renderings before designs are finalized for internal stakeholder review.
- Build sales experiences where customers can preview and customize products via View-only interactions with CAD designs on mobile devices.

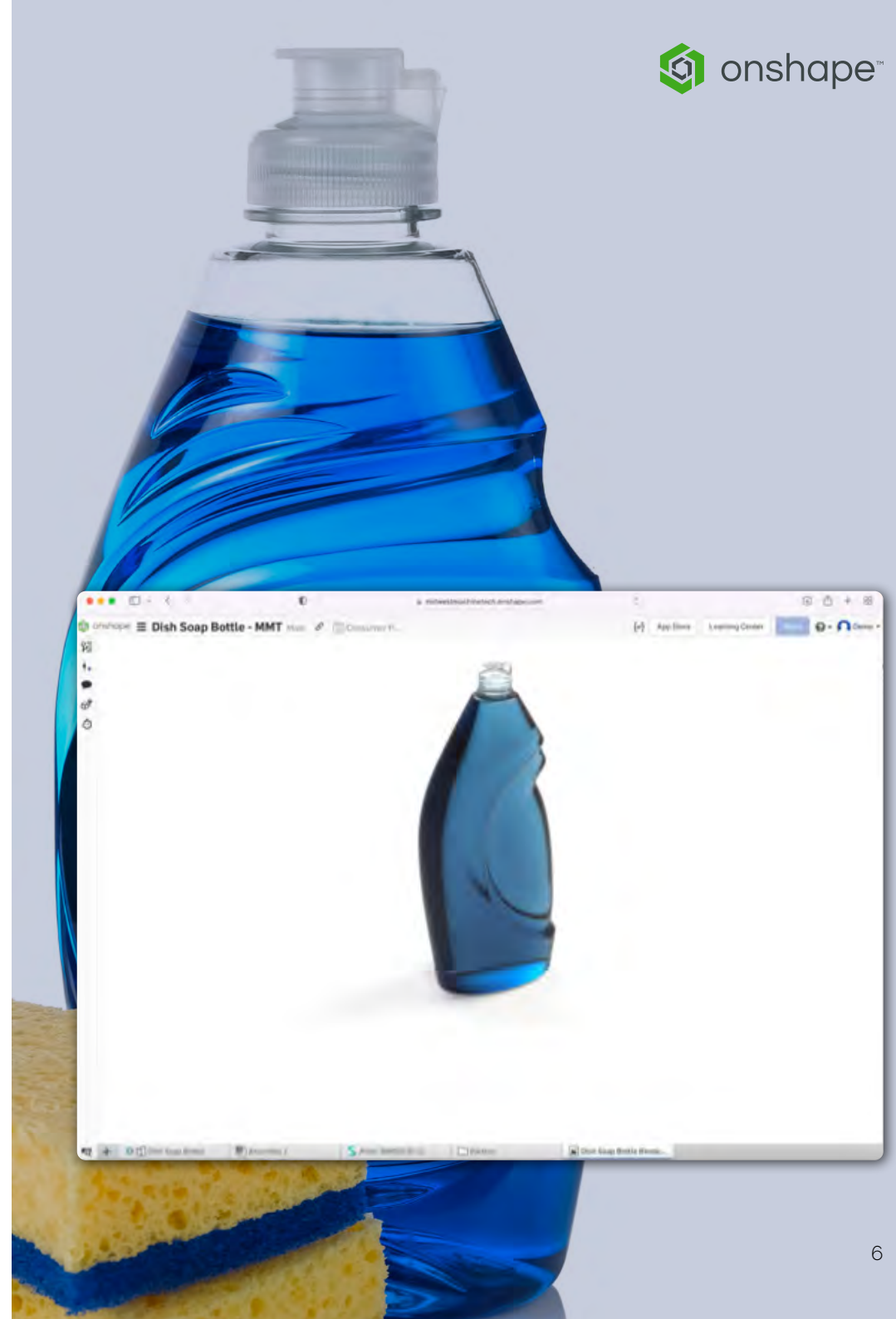
Learn more
about Onshape's
Photorealistic rendering

RENDER STUDIO

DOCUMENTATION



▶ WATCH THE VIDEO



The Director of Digitalization

Change doesn't happen overnight, nor does it come for free.

In the context of adopting Cloud-Native CAD and PDM, there are huge inherent long-term benefits, but the amount of legacy data and knowledge can be substantial.

Companies that are most successful with their Cloud adoption have a named individual responsible for change management and their digital roadmap. The Director of Digitalization is empowered to improve business operations and have the energy, knowledge, and dedication to see big changes all the way through.

Edit Drill ✕

Name

Description

Permission scheme

Agile Product Sprint

Designed for teams of three to nine product designers who break their work into actions that can be completed within time-boxed iterations, called sprints (30 days or less, most commonly two weeks) and track progress and re-plan in 15-minute stand-up meetings, called daily scrums.

Add teams to project roles

Project Administrators

<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> CAD Manager saasplm+cadmanager@gmail.com </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Managers Users who are managers in the SaaSIFY Systems, Inc. enterprise </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Mike Manager saasplm+manager@gmail.com </div> <div style="border: 1px solid #ccc; padding: 5px;"> Contractors Users who are contractors in the SaaSIFY Systems, Inc. enterprise </div>	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Project Administrators All permissions </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Project Administrators All permissions ✕ </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Scrum master Comment, Copy, Edit, Export, Link document, Share, View ✕ </div> <div style="border: 1px solid #ccc; padding: 5px;"> Suppliers View & comment ✕ </div>
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Sr Manager or Mechanical Design Team

who wants to drive change but has core obligations to the product roadmap and managerial responsibilities.



Director of Digitalization

who has more time and authority to focus on change and business process improvement for the product development organization.

The Director of Digitalization



Role - The Director of Digitalization, empowered by the executive team and board, oversees setting and implementing the product development teams Digital roadmap along with IT. They oversee product development strategy, department resources and budget and oversee company partnerships such as with manufacturers and suppliers. They are in charge of improving operational efficiency and growing profit margins by moving product development to more modern and cost-effective Cloud based solutions.

Responsibilities include,

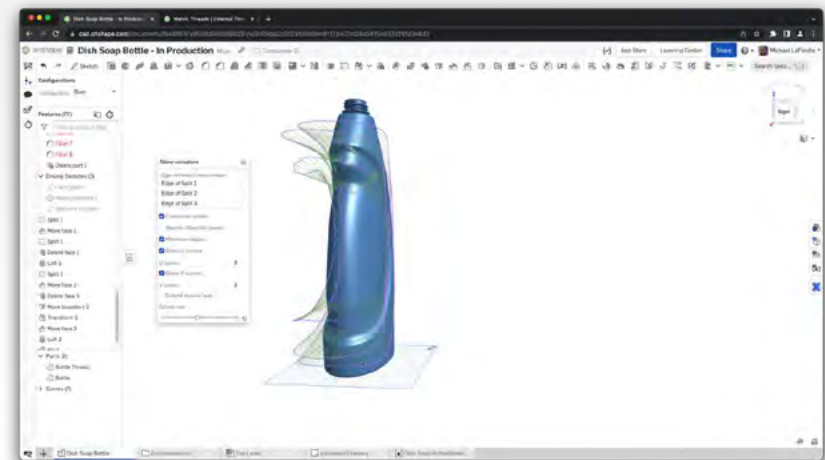
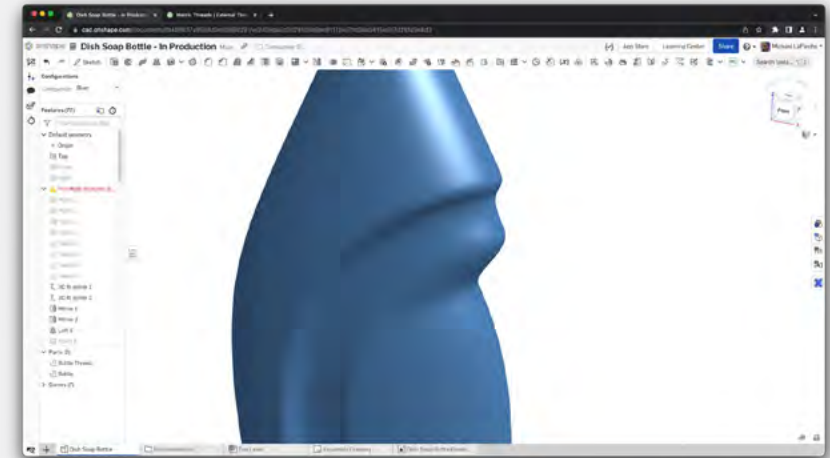
- Build and execute on a digitalization roadmap to better connect through software integration and automation dependent parts of the product, disparate development processes and teams of people.
- Manage the exchange of information between dispersed and cross-functional teams such as mechanical, software and manufacturing teams.
- Manage partner relationships and the exchange of information with external team members such as suppliers and distribution networks.

Skills include,

- Managerial skills of CAD or ME teams 10+ yrs.
- Ability to work across business units to break down silos, influence without authority and propose joint solutions.
- Ability to identify and grow strategic partnerships with preferred partners.

Sample projects include,

- Own the digitization roadmap, prepare business cases to quantify the ROI for CAD technology stack investments and create a phased plan for adoption.
- Work with suppliers, mechanical and electrical teams to streamline design reviews through the automation of exchanging key data earlier.
- Measure the agility of the product development team and make proposals for efficiency improvements, maintain a current status of all user's activity and a comprehensive audit-history of company IP.



These three roles and many more are emerging as companies continue to adopt Cloud technologies and Agile methodologies in their product development practices. For some, change is obvious. For others, its much harder. Either way, companies who allocate dedicated resources to these topics have better outcomes.

As companies become more digital, it makes no sense to leave their engineering department behind. Companies have moved to cloud-based tools because they're more convenient, efficient and much faster. Companies are adopting Agile methodologies that are allowing them to build products faster and with more innovation – strongly emphasizing rapid iteration, tight communication between a geographically diverse team, and an openness to embrace change.

The sooner you can align your resources and team roles to better leverage Cloud technologies and Agile methodologies the sooner you can leave your competition behind!

Interested in speeding up your product development process?

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Learn more about Agile from the experts at Onshape

RESOURCE CENTER



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