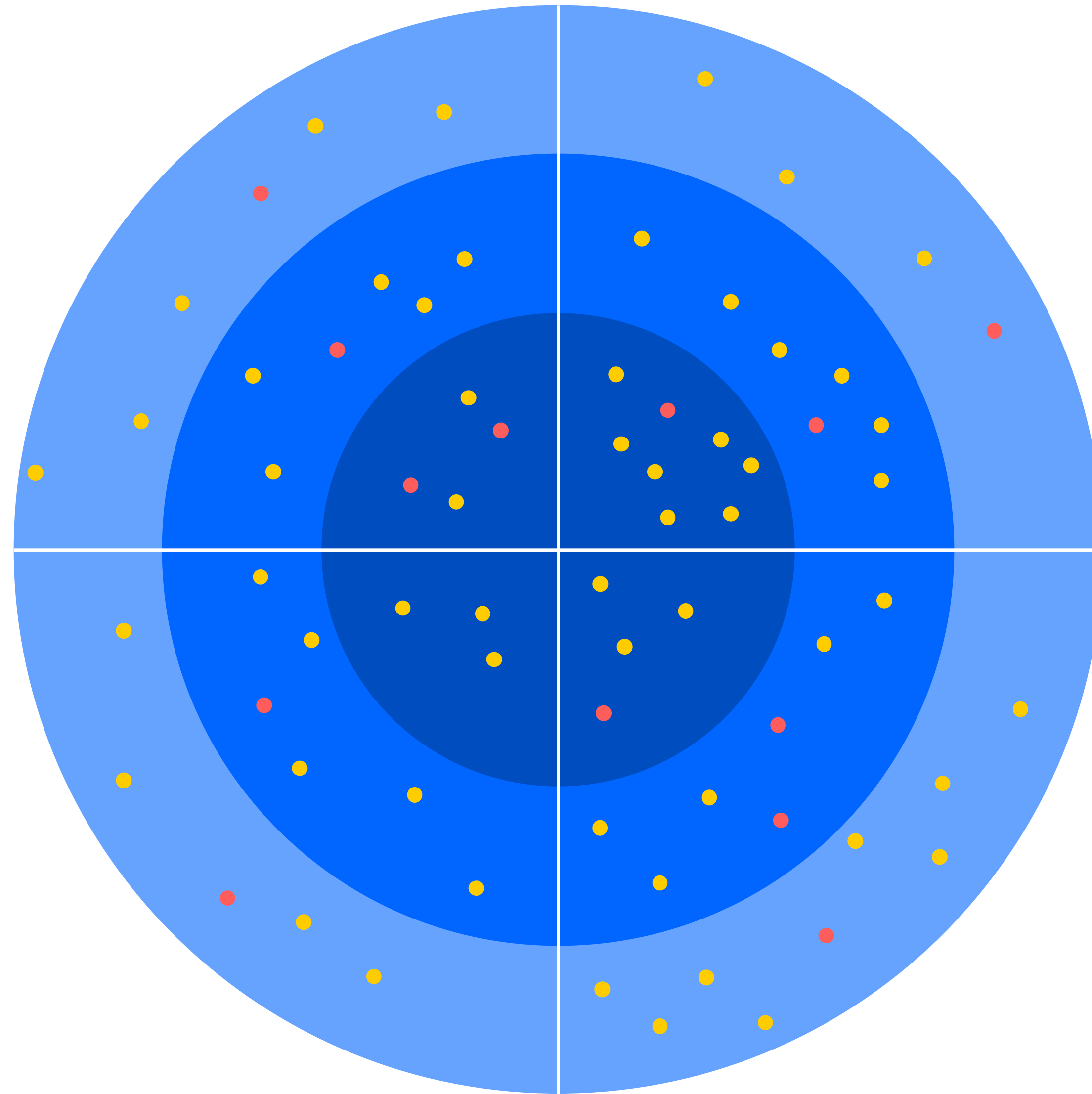


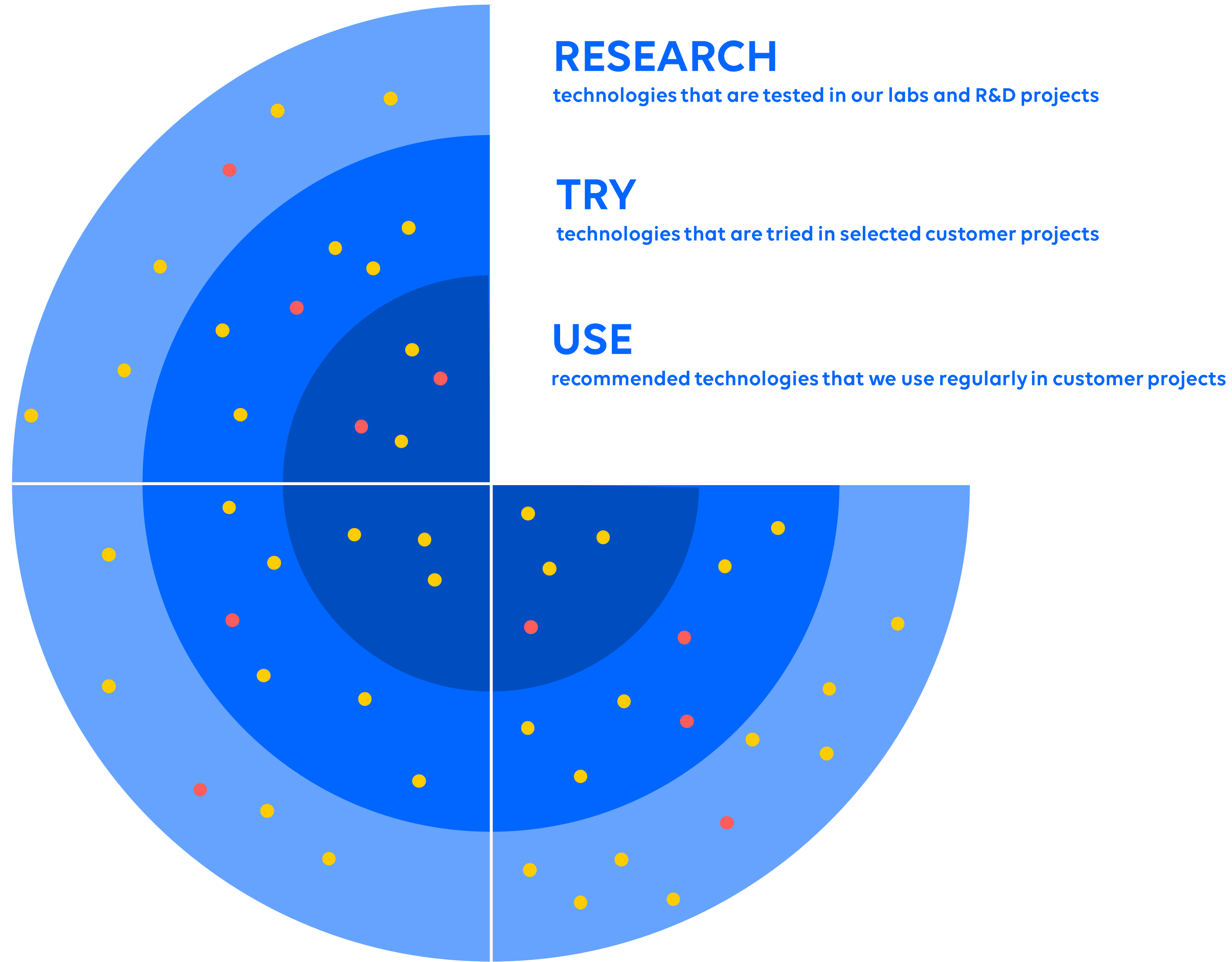
**PRODUCTS**

**PLATFORMS**

**FRAMEWORKS**

**TOOLS & PRACTICES**





PRODUCTS

PLATFORMS

FRAMEWORKS

TOOLS & PRACTICES



# PRODUCTS

## USE

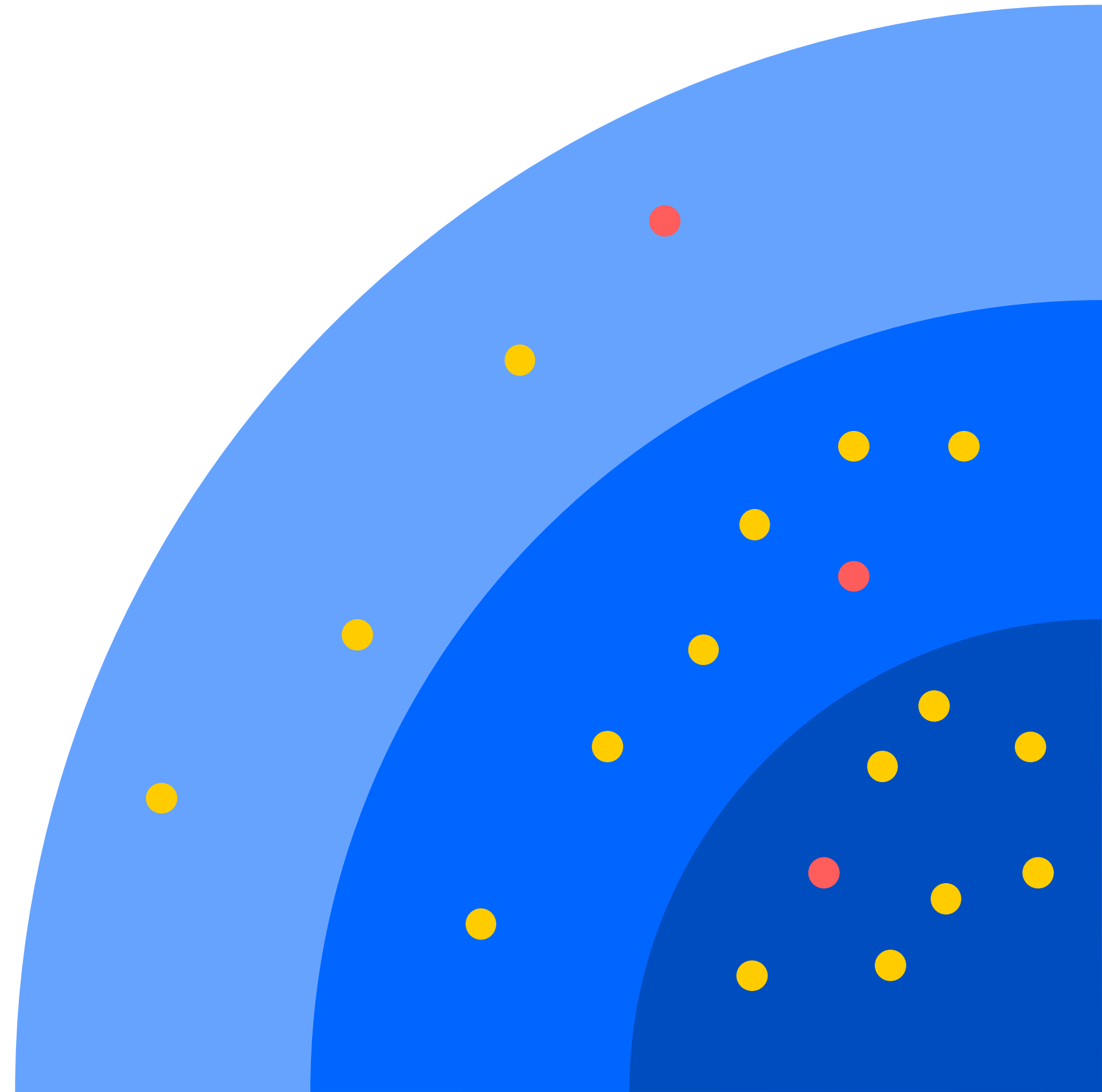
- |                     |                    |            |
|---------------------|--------------------|------------|
| Episerver CMS       | InRiver PIM        | Cloudinary |
| Umbraco             | Episerver Commerce | Cellum     |
| ● Contentful        | ● Virto Commerce   |            |
| Episerver Find      | SQL Server         |            |
| Elasticsearch (ELK) | Office 365         |            |

## TRY

- |                      |               |                              |
|----------------------|---------------|------------------------------|
| Contentful           | Hosted Search | Redis                        |
| RavenDB              | MongoDB       | Cosmos DB                    |
| ● Microsoft Power BI | Prismic       | Episerver Digital Experience |

## RESEARCH

- |                 |               |
|-----------------|---------------|
| Azure Data Lake | Vulcan Search |
| ● Hadoop        | Qlik          |
| Cortana IML     | Tableau       |



## PRODUCTS

# HIGHLIGHTS

### EPISERVER

- enterprise grade content management system
- supports marketing automation, personalization, A/B testing, multilingual websites and more
- integrated with Episerver Commerce
- hosted on-premise, in public cloud or with Episerver DXC (Digital Experience Cloud)



### CONTENTFUL

- a concept that has changed how we view content
- various applications leverage content managed in one place, often in the cloud
- alternative to CMS-centric solutions (implemented on top of a traditional CMS)



### ELASTICSEARCH

- Elasticsearch/Logstash/Kibana (ELK) an open source technology stack
- cache component, search engine and a tool for business insights
- used to create personalized enterprise and site search experiences.
- core of EPiServer Find and EPiServer Commerce.



## PRODUCTS

# HIGHLIGHTS

### UMBRACO

- open-source content management system with available support plans
- suits most medium sized websites
- enables building customizable forms with Umbraco Forms
- hosted on-premise, in a public cloud or with Umbraco Cloud



### MICROSOFT POWER BI

- suite of business analytics tools for data visualization
- for business users, analysts and IT
- hosted in Azure Cloud, Power BI is integrated with Microsoft toolsets like Excel and SQL Server
- visualizations can be embedded in tailor-made applications



### HADOOP

- open-source software for storing and analyzing massive amounts of structured and unstructured data
- heavily used in machine learning scenarios
- available in Azure as HDInsight



# PLATFORMS

## USE

- Azure Cloud Hosting
- HTML5
- JavaScript / ES6
- Node.js
- .NET / .NET Core
- C# / F#
- iOS / Swift

- Android
- Xamarin
- React Native
- PaaS
- SaaS
- IaaS
- Database as a Service

- Cloud Storage
- Content Delivery Networks (CDN)
- Web APIs
- Sendgrid
- SMS Gateways

## TRY

- Beacons
- Azure Cognitive Services
- Wearables

- Amazon Hosting
- Google Cloud
- Slack Bots

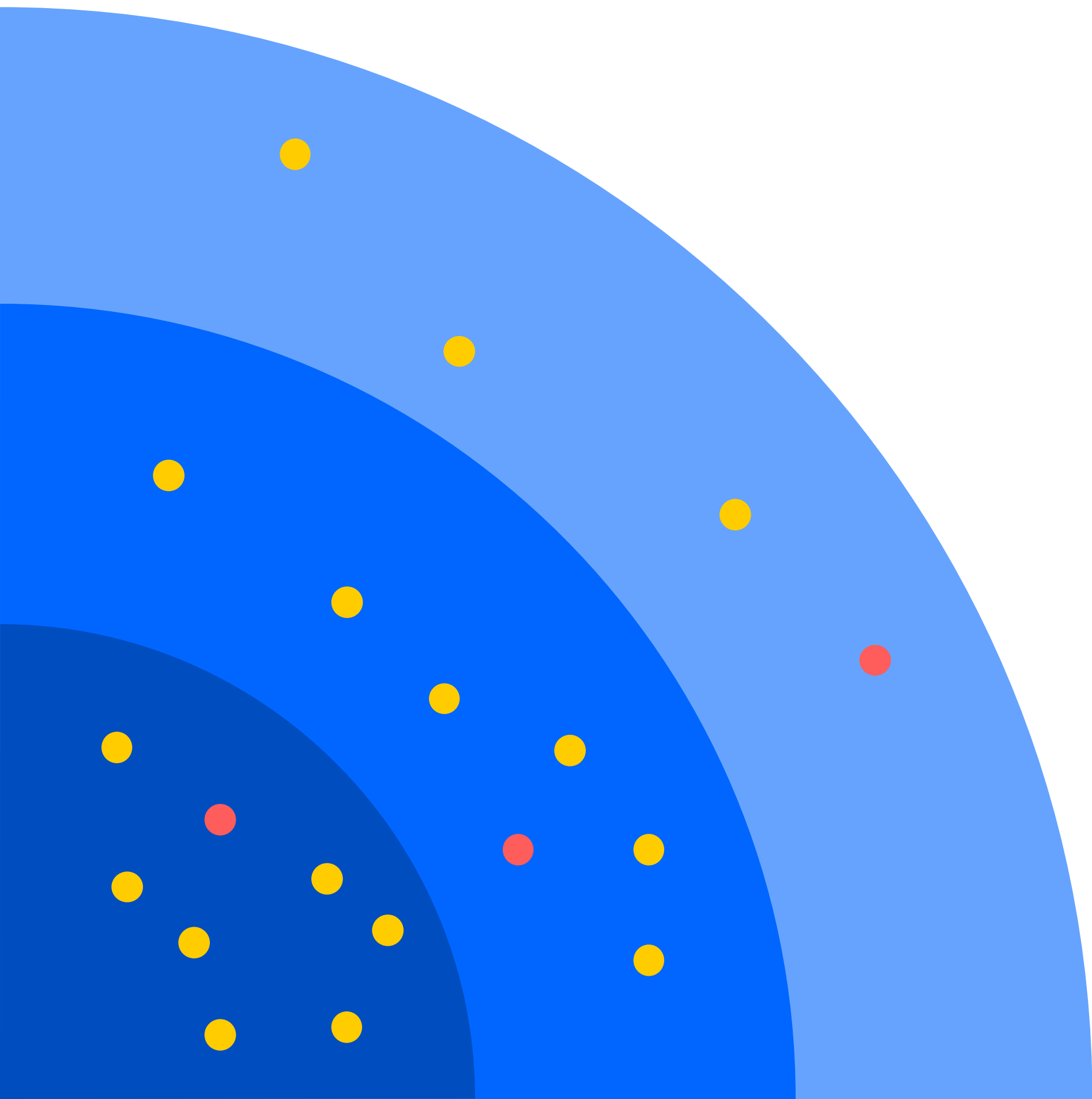
- Serverless architecture

## RESEARCH

- Azure Machine Learning
- IBM Watson

- R Language
- IoT Sensors

- Smart speakers
- Azure Bot Service



## PLATFORMS

# HIGHLIGHTS

### MICROSOFT AZURE CLOUD

- public cloud computing service created by Microsoft
- provides software as a service (SaaS), platform as a service and infrastructure as a service
- flexible pay-as-you go model
- Azure Germany meets strict European Union (EU) requirements by storing all data in Germany and controlling systems by a German data trustee



### REACT NATIVE

- enables users to build mobile apps using only JavaScript
- uses the same fundamental UI building blocks as regular iOS and Android apps
- supports creating one application for both iOS and Android



### AZURE COGNITIVE SERVICES

- provides artificial intelligence (AI) as a service
- set of tools for developers who can insert AI functions directly into custom applications
- supports image processing, face and object recognition and emotion detection
- includes natural language processing with sentiment analysis and speech recognition

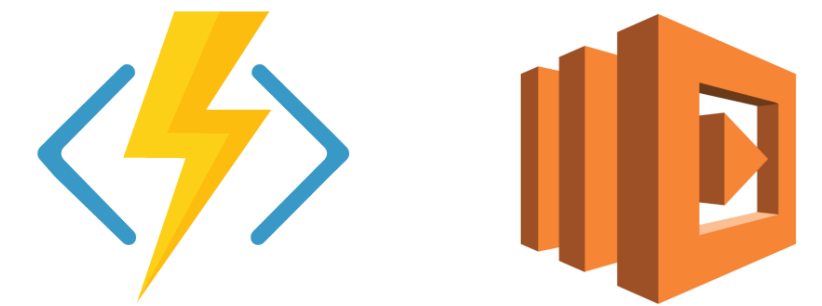


## PLATFORMS

# HIGHLIGHTS

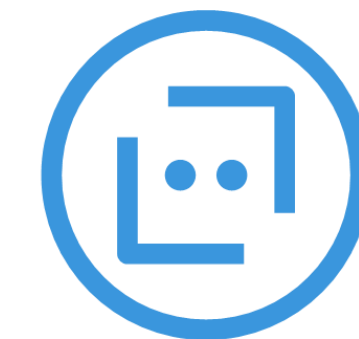
### SERVERLESS ARCHITECTURE

- ephemeral computing power that comes into existence on request and disappears immediately after use – an alternative to long-running virtual machines
- removes the nontrivial effort that traditionally goes into server and OS configuration and orchestration
- pricing based on the actual amount of resources consumed by an application, rather than on pre-purchased units of capacity
- supported by major cloud providers like Azure Functions, AWS Lambda and Google Cloud Functions



### AZURE BOT SERVICE

- implements concepts of Conversational AI - making human and computer interactions more natural
- enables developers to create conversational interfaces on multiple channels
- supports integration with custom and existing applications, including Skype, Slack or Facebook Messenger



### JAVASCRIPT / ES6

- one of the most popular programming languages in the world
- supported by all browsers including desktop and mobile devices
- designed as a web scripting language but now provides core scripting capabilities for a variety of host environments like web pages, single page applications (SPA), server side computing (with node.js) or mobile applications (with React Native)





# FRAMEWORKS

## USE

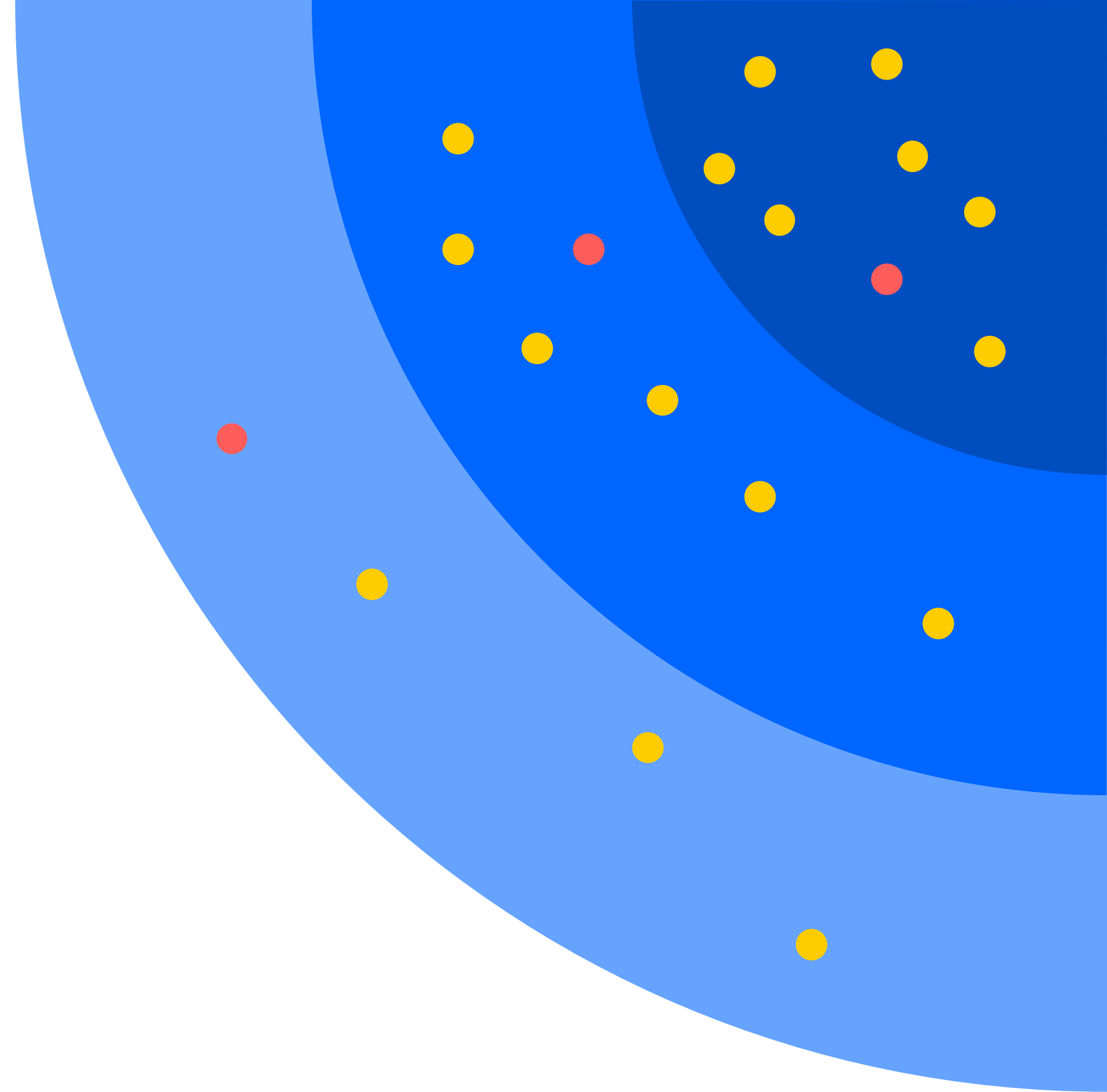
- React
    - ASP.NET Web API
    - Redux
      - D3 JS
  - Angular
    - Kendo UI
    - Typescript
    - Dojo
    - ASP.NET MVC
    - Bootstrap
    - Foundation
    - SemanticUI
- NServiceBus  
MSMQ  
Entity Framework  
SASS  
ES6 with Babel

## TRY

- PostSharp
- Cordova
- Electron
- SignalR
- Ionic
- Vue.JS

## RESEARCH

- Web Components and Polymer
- Web GL
- Embed JS
- Progressive Web Apps
- Python
- Mass Transit
- Greensock
- Ember
- R language



## FRAMEWORKS

# HIGHLIGHTS

### REACT JS

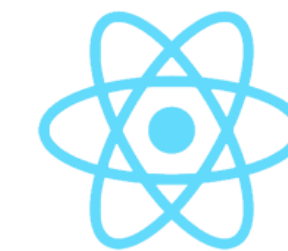
- JavaScript framework mainly focusing on creating fast, modular, scalable and flexible user interfaces
- concept of „virtual DOM” makes rendering UI very effective
- built and open-sourced by Facebook

### ANGULAR

- a complete web application platform used to build well structured Single Page Applications (SPA)
- enables users to build fast interfaces via Web Workers and server-side rendering
- led by the Angular Team at Google and by a community of individuals and corporations

### TYPESCRIPT

- strongly typed language that compiles to JavaScript
- static typing enables advanced tooling – autocompletion, navigation and refactoring
- well-defined interfaces encourages good design and makes abstractions explicit



React



ANGULAR



## FRAMEWORKS

# HIGHLIGHTS

### WEB COMPONENTS

- set of web platform APIs that allow for the creation of reusable widgets or components in web documents and web applications
- brings component-based software engineering to the World Wide Web, in contrast to plain HTML
- supported by all major browsers

### PROGRESSIVE WEB APPS

- web applications that are regular web pages or websites, but can appear to the user like traditional applications or native mobile applications
- attempts to combine features offered by most modern browsers with the benefits of a mobile experience
- a common codebase across different platforms makes the apps easier to develop and maintain
- allows users to install web apps to the home screen, receive push notifications and work offline

### PYTHON

- interpreted high-level programming language for general-purpose programming
- one of the most popular languages used in data science, machine learning and AI systems



# TOOLS & PRACTICES

## USE

- Design in browser
- Responsive Web Design
- Adaptive Content
- Mobile First
- Code Review
- Definition of Done
- Material Design
- Visual Studio Online
- Jira
- Visual Studio IDE
- OWASP
- High availability design
- Test-driven development
- Automated UI Testing
- Selenium
- Cross Platform Testing
- Litmus
- Browser Stack
- Open Device Lab
- JavaScript Unit Testing
- A/B Testing
- Visual Studio Test
- Loader.IO
- NeoLoad
- dotTrace
- New Relic
- Azure App Insights
- Git / Github
- TeamCity
- Continuous Delivery
- Octopus
- ReSharper
- Kanban
- Scrum
- Single Sign-On
- Gulp
- WebPack
- WCAG 2.0 & ARIA
- SVG & Canvas Animation

## TRY

- Hallway Testing
- Microservices
- RestSharp
- Swagger
- Rider
- Offline apps
- Server-side-rendering
- Web workers
- CSS Variables

## RESEARCH

- BDD
- Predictive Monitoring
- Docker / Kubernetes
- Visual Studio App Center
- HTTP2



## TOOLS & PRACTICES

# HIGHLIGHTS

### ADAPTIVE CONTENT

- based on the principle of providing meaningful and personalized interactions across all channels
- design that adapts not only by responding automatically to screen size and orientation of device, but also by displaying relevant content

### MATERIAL DESIGN

- a unified system that combines theory, resources, and tools for crafting user interfaces, introduced by Google
- focused on creating a purposeful and strong brand experience
- based on three-dimensional constructions, composed of layers of “physical” components

### CROSS PLATFORM TESTING

- performed to determine the behavior of an application or a website in different environments
- helps in identifying issues that may vary with platforms or configurations such as consistency, user interface, usability, and performance issues
- the Open Device Lab at Making Waves facilitates testing on physical devices
- automation is possible with tools like Browser Stack, Litmus or Xamarin Test Cloud



**Material Design**



**BrowserStack**

## TOOLS & PRACTICES

# HIGHLIGHTS

### WCAG 2.0 & ARIA

- internationally recognized set of recommendations for improving web accessibility
- follows universal design standards, which strive for products to be accessed, understood and used to the greatest extent possible by all people regardless of age, size, ability or disability
- cares about making digital services accessible to everyone, from users who read articles on their smartphones on a sunny day to users who interact with the web via voice control



### DOCKER / KUBERNETES

- makes it easier to achieve parity between development and production, which makes for reliable deployments
- a natural fit in a microservices-style application as a packaging mechanism for self-contained services
- has become the container orchestration platform of choice for major public cloud platforms, including Microsoft's Azure Container Service and Google Cloud





Making Waves