



How TELUS beats the competition to market

Content Infrastructure

 TELUS
digital

iPhone X Launch

TELUS
digital





KyleGraeme

@Pur_Ky

Follow



Rogers site is still down! Thought the iPhone X pre-order started@3:01...meanwhile @TELUSsupport site working just fine. What gives @Rogers?

1st

To Market - beating Apple

Rouven & Andrew

Introductions



Rouven Wessling

Developer Evangelist

@RouvenWessling | rouven@contentful.com



Andrew Kumar

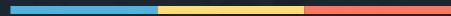
Product & Practice Lead, Digital Platform

@kumar | andrew.kumar@telus.com



Don't let a CMS get in the way of
shipping software.

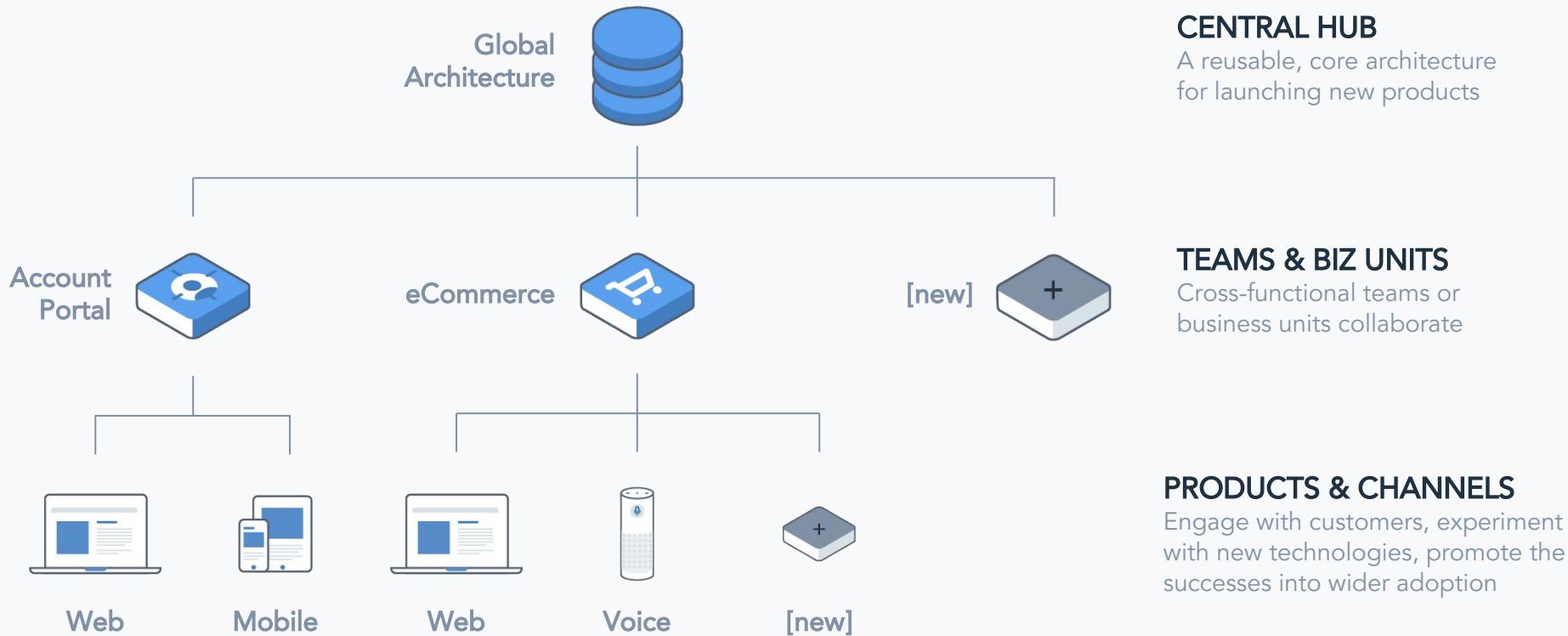
Contentful provides a content infrastructure that enables
teams to power content in any digital product.



The way software is build is changing

Innovators are building digital factories

Reusable architectures that enable teams to quickly new products and expand into new channels



The leading content infrastructure for digital teams

Customers



Partners



Investors (\$45M)



Team

160 Employees
San Francisco
Berlin

We're 160 people from over
40 nations



We're really bad at team
pictures

About
TELUS



Phone



Internet



Mobile



TV



Home Security



Health



IoT





 TELUS
digital

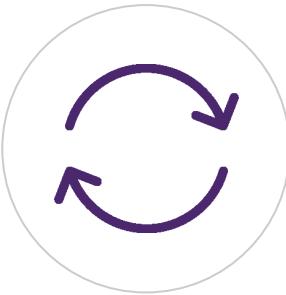
Traditional Enterprise IT



About

TELUS digital

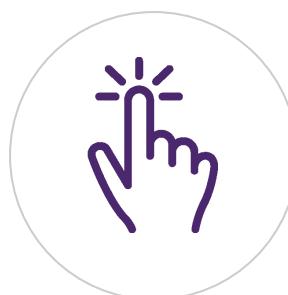
Expertise



UX & Rapid
Prototyping



Design &
Build



Accessibility



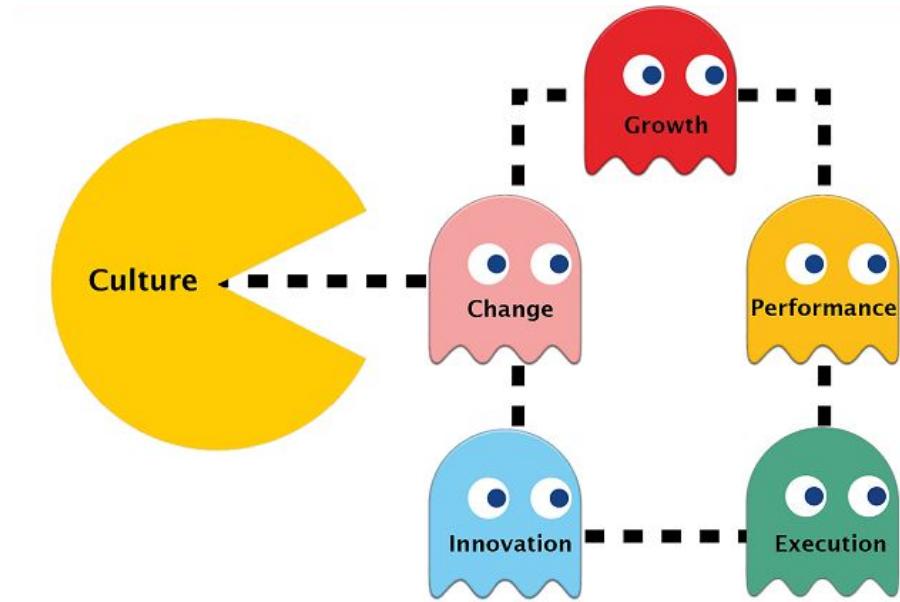
Security & Privacy



Analytics

“Culture eats
strategy for
breakfast, lunch
and dinner”

- Peter Drucker





TELUS
digital



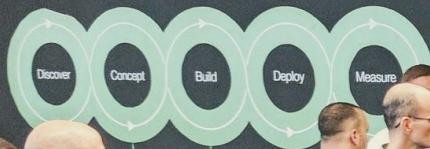
TELUS
digital



TELUS
digital



TELUS
digital



Are you working differently to deliver a product than you have in the past? How applying your digital delivery approach can help you to deliver a product that's ready for market.



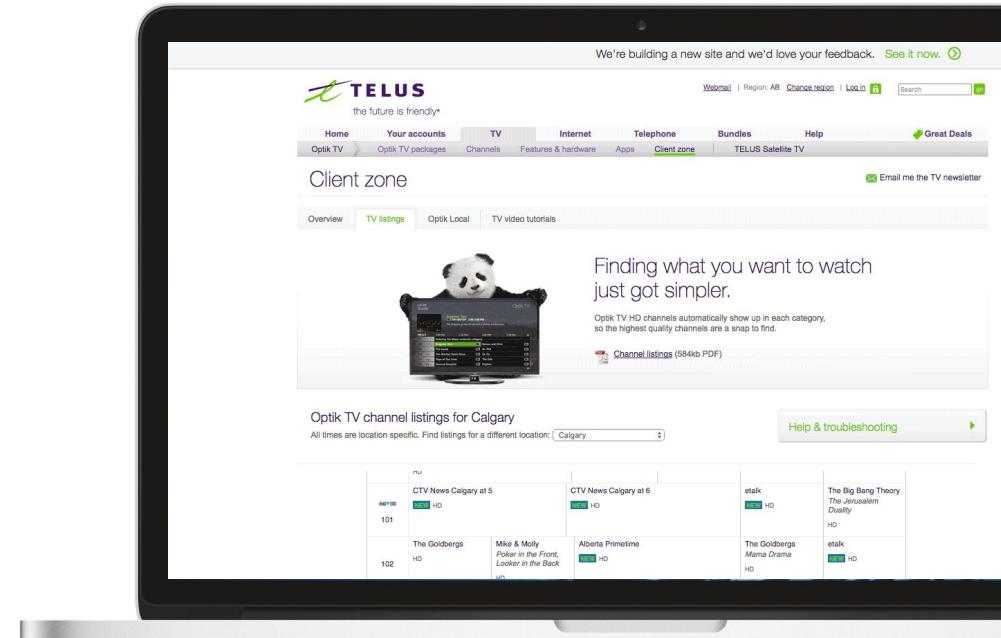


TELUS
digital

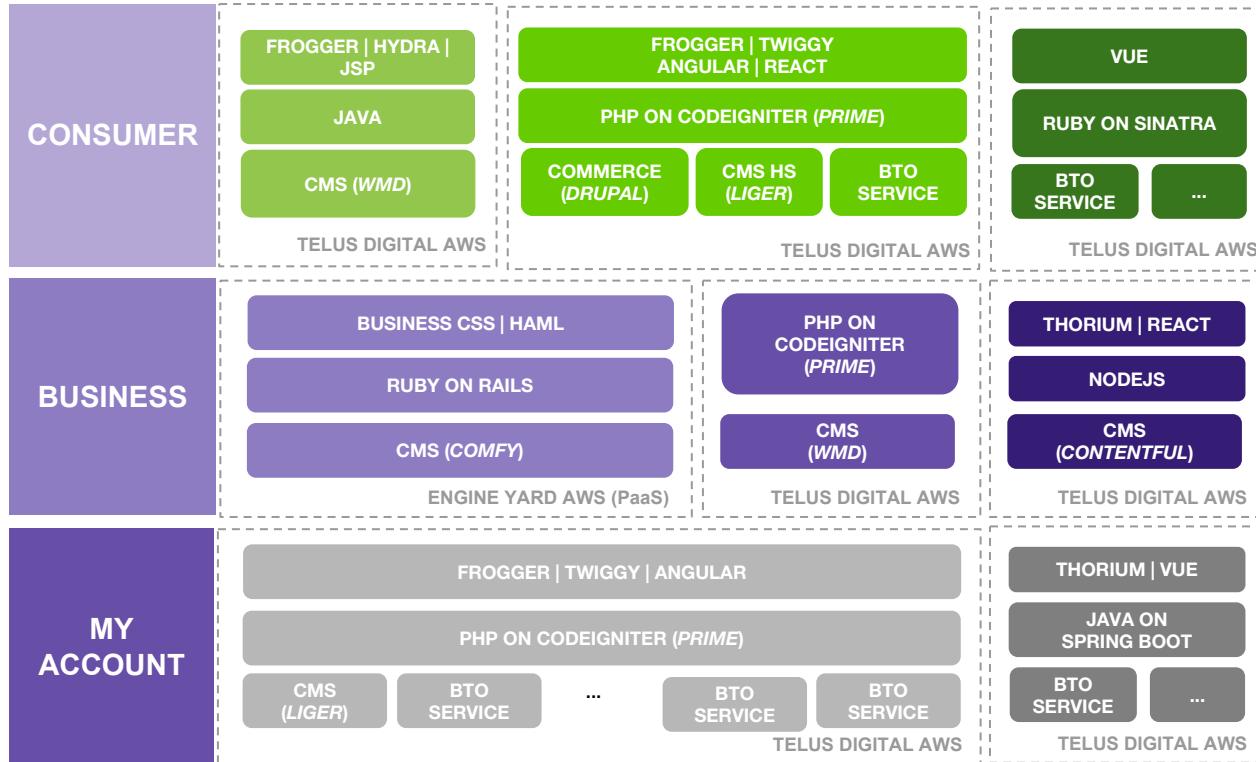
TELUS digital

Land of Broken Toys

“Snowflakes” Purpose Built Tech Debt



Growing Pains



- Team grew quickly
- Moved quickly
- Operating model evolved without strong architectural oversight
- What made us successful to date did not work at scale

Growing Pains

Many teams were building TELUS experiences without an easy way to reuse work, share ideas, or receive and consume design / code updates.

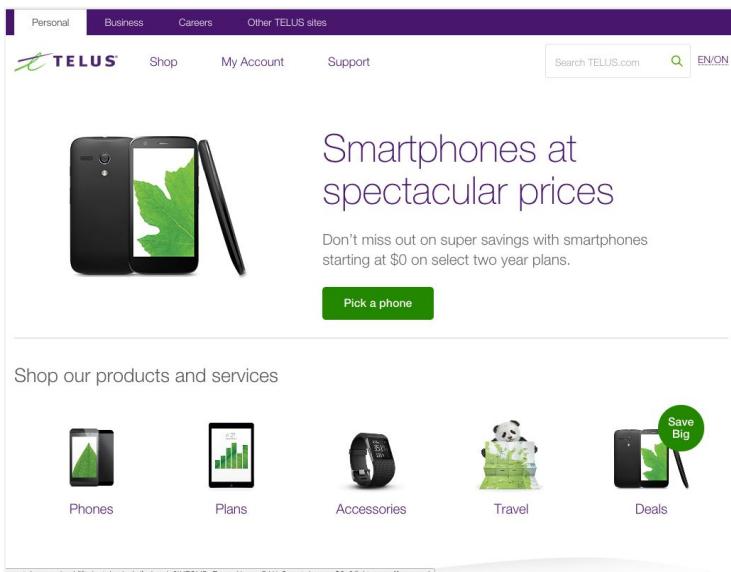


- Multiple CMSs
- Multiple overlapping CSS files
- No single source of code or design truth
- Teams reinvent the wheel
- Inconsistent customer experience
- Builds and updates take longer

Content Operations = Incredible Effort

It took incredible effort to maintain and sustain our digital properties.

We needed to simplify the way our team members manage our products day to day.



The screenshot shows the TELUS mobile website. At the top, there's a purple header bar with links for Personal, Business, Careers, and Other TELUS sites. Below the header is the TELUS logo, followed by Shop, My Account, and Support links. A search bar with "Search TELUS.com" and a magnifying glass icon is next to a language switcher (EN/FR). The main content area features a large image of three smartphones. To the right, text reads "Smartphones at spectacular prices" and "Don't miss out on super savings with smartphones starting at \$0 on select two year plans." A green button labeled "Pick a phone" is below this. Further down, there's a section titled "Shop our products and services" with icons for Phones, Plans, Accessories, Travel, and Deals. The "Deals" icon has a green circle with "Save Big" written on it. At the bottom, there's a URL: www.telus.com/mobile/catalog/sale/index.do?INTCMP=Tcom_Home_BAN_Smartphones_50_&linktype=offer.panel.

Content Store

WMD

DRUPAL

LIGER

GATHERCONTENT

COMFY

STATIC JSON FILES

ADOBETARGET

Types of Content

Mobility and Home Solutions Marketing, Products, Assets

Mobility Products, Plans, Pricing, Offers, Assets

Mobility and Home Solutions Products, Plans, Pricing

Consumer Support Articles

Business Marketing, Products, Plans, Pricing, Support, Assets

Home Solutions Bundling Rules

All Targeting and Personalization Marketing and Assets

Land of Broken Toys

- Disjointed customer experience
- Very complicated technical landscape
- Large effort required to create and maintain content for our products

Which led to ...

- Unhappy Developers
- Unhappy Customers
- Unhappy Business



**"I love my CMS!"
said no developer
ever.**



Why not a CMS?

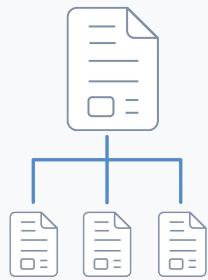
ThoughtWorks®

"We are seeing too many organizations run into troubles as they attempt to use their CMS as a platform for delivering large and complex digital applications."

- ThoughtWorks Technology Radar

Today's CMS

Page-centric model



SILOED CONTENT

Monolithic architecture



Coupled to the CMS' platform

Hard to change



DISCONNECTED

How is a Content Infrastructure different?

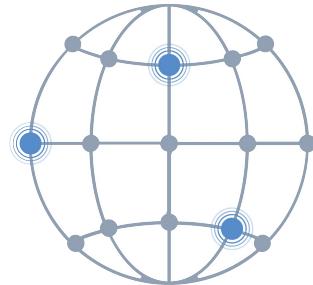
Content Infrastructure

Structured content



Independent of
medium and platform

Microservice architecture



COMPOSABLE

Changes with your software



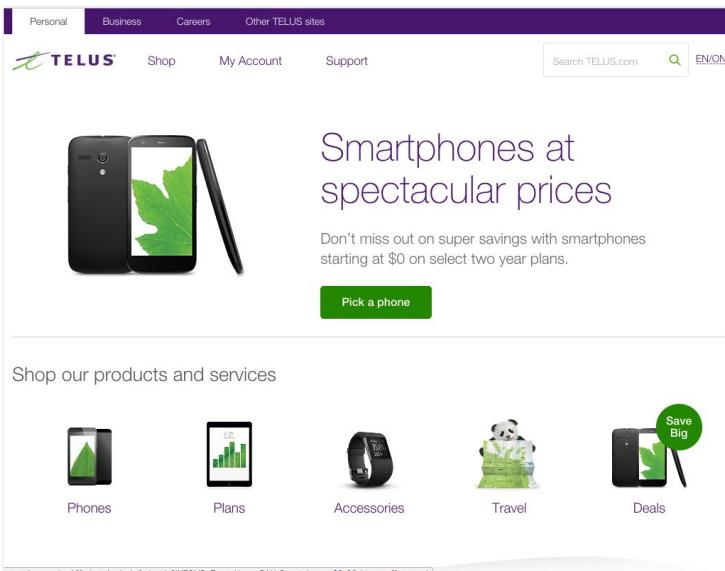
AGILE

TELUS digital

Applying Content Infrastructure

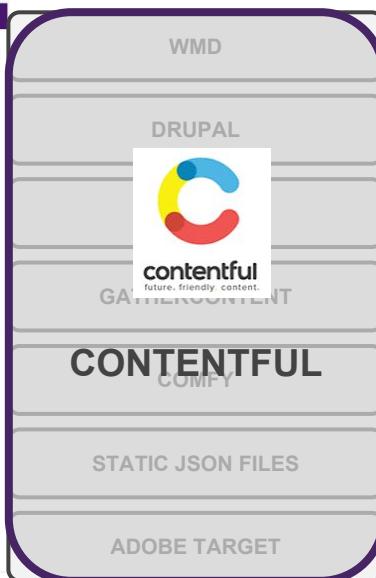
Content Operations = Content Infrastructure

Rationalizing our content stores improved operational efficiency, reusability and brought consistency to the way our team members manage our products.



The screenshot shows a mobile web page for TELUS. At the top, there's a navigation bar with links for Personal, Business, Careers, Other TELUS sites, TELUS logo, Shop, My Account, and Support. Below the navigation is a search bar with 'Search TELUS.com' and a magnifying glass icon. A green 'ENGLISH' button is also present. The main content area features a large image of three smartphones. To the right, text reads 'Smartphones at spectacular prices' with a subtext 'Don't miss out on super savings with smartphones starting at \$0 on select two year plans.' A green 'Pick a phone' button is below this. Further down, there's a section titled 'Shop our products and services' with icons for Phones, Plans, Accessories, Travel, and Deals. A 'Save Big' badge is next to the Travel icon. At the bottom, there's a URL: www.telus.com/mobile/catalog/sale/index.do?INTCMP=Tcom_Home_BAN_Smartphones_50_&linktype=offer.panel.

Content Store



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Mobility and Home Solutions Products, Plans, Pricing

Consumer Support Articles

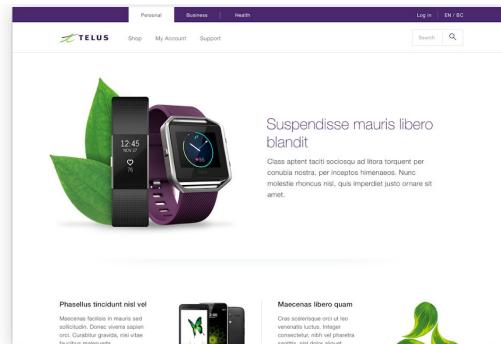
Business Marketing, Products, Plans, Pricing, Support, Assets

Home Solutions Bundling Rules

All Targeting and Personalization Marketing and Assets

Content Operations = Multi Region / Multi Language

13 Regions x 7 Languages (+ default fallbacks) = 98 locales.



Content Infrastructure: Spaces

Global

Products & Services

Legal Info

Nav, Footer, Elements

Comms

Line of Business

Mobility

Home

Health

Business

App

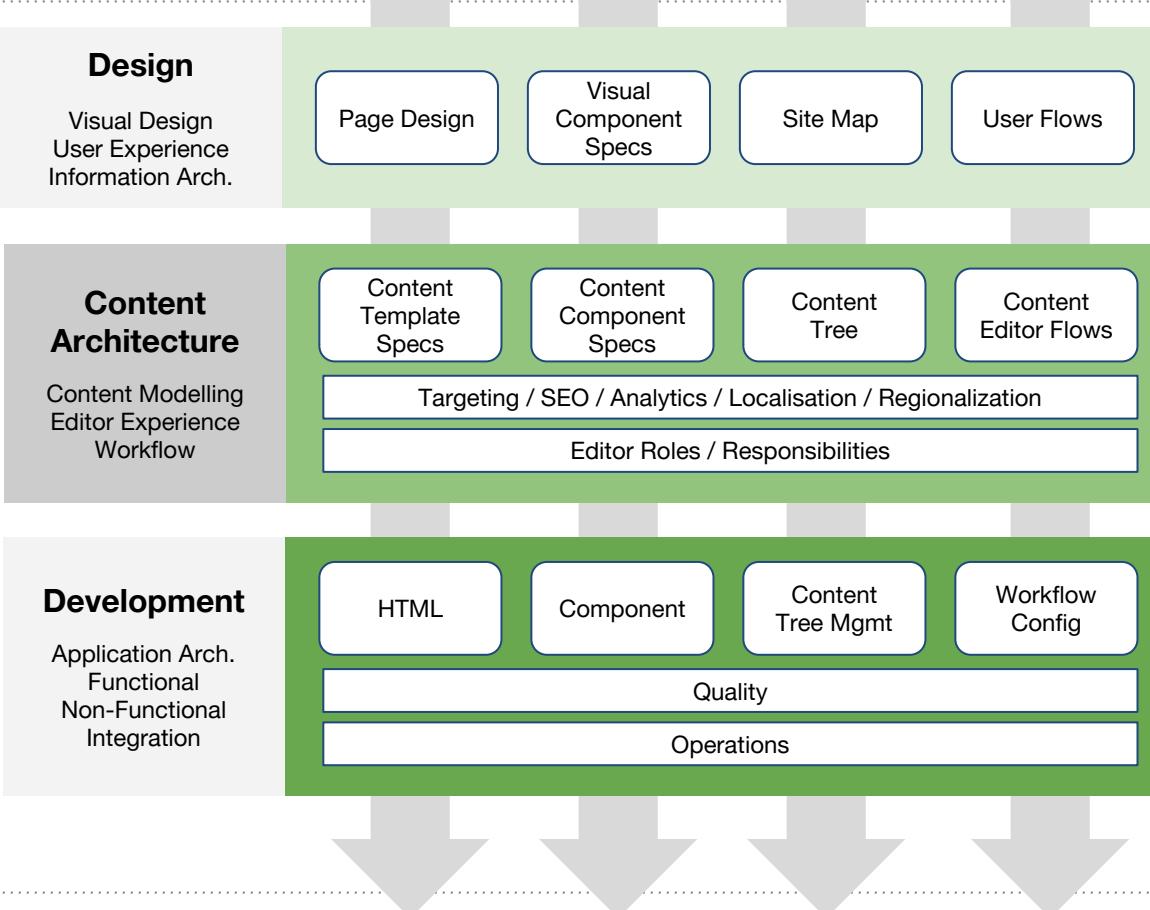
Deals

Accessories

Leveraging different tiers of spacing to intelligently structure content for reference and reuse.

- Common shared data in global spaces
- Common shared data within line of business dedicated spaces
- Common shared data within customer first functional applications

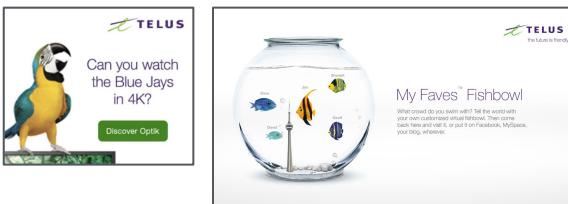
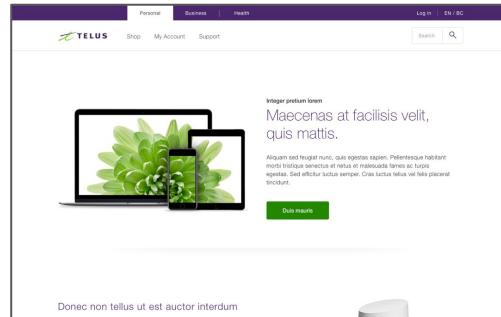
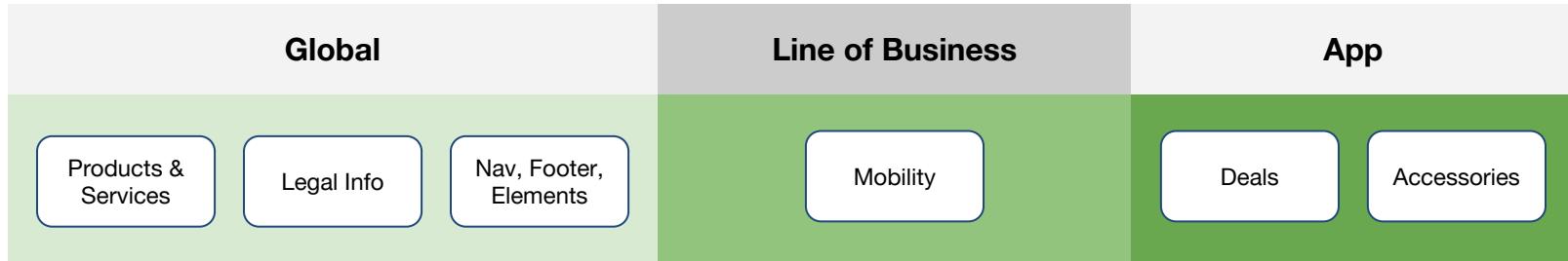
Content Infrastructure: Modelling



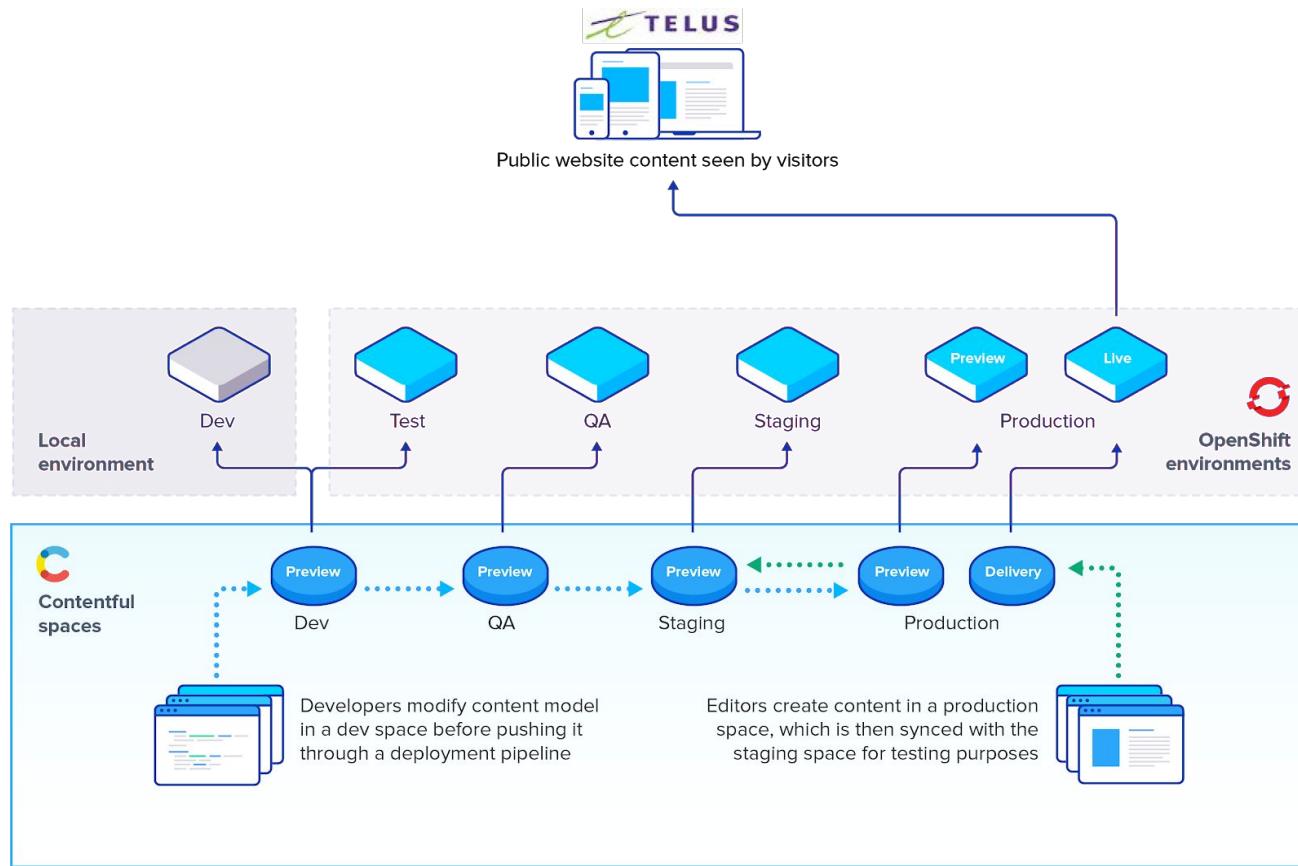
Content Modelling

- create models for content
- determine how to reuse content
- define how and which team members create, edit, and publish
- make it easy to find content
- support change management: training, documentation, etc.

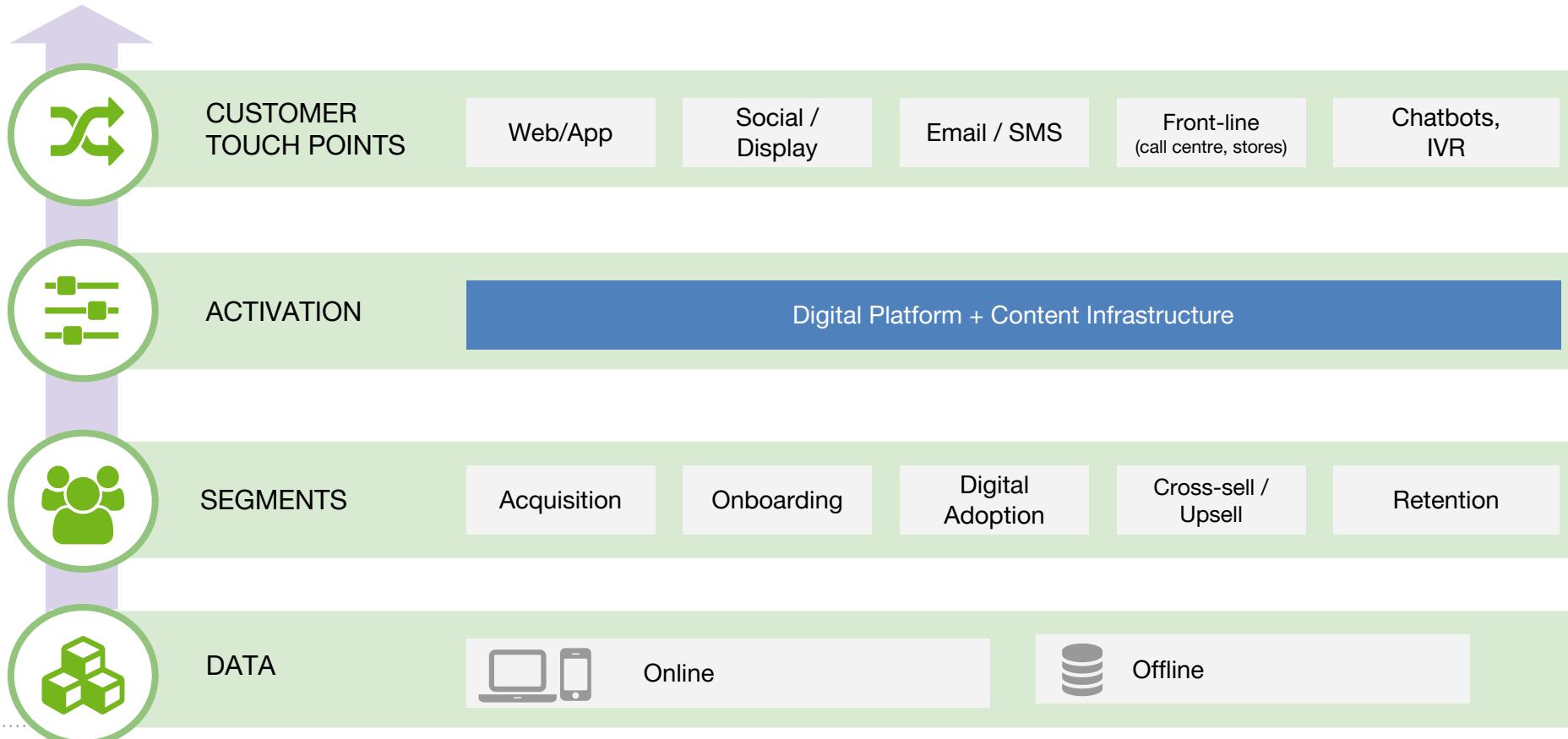
Content Infrastructure: Product Content



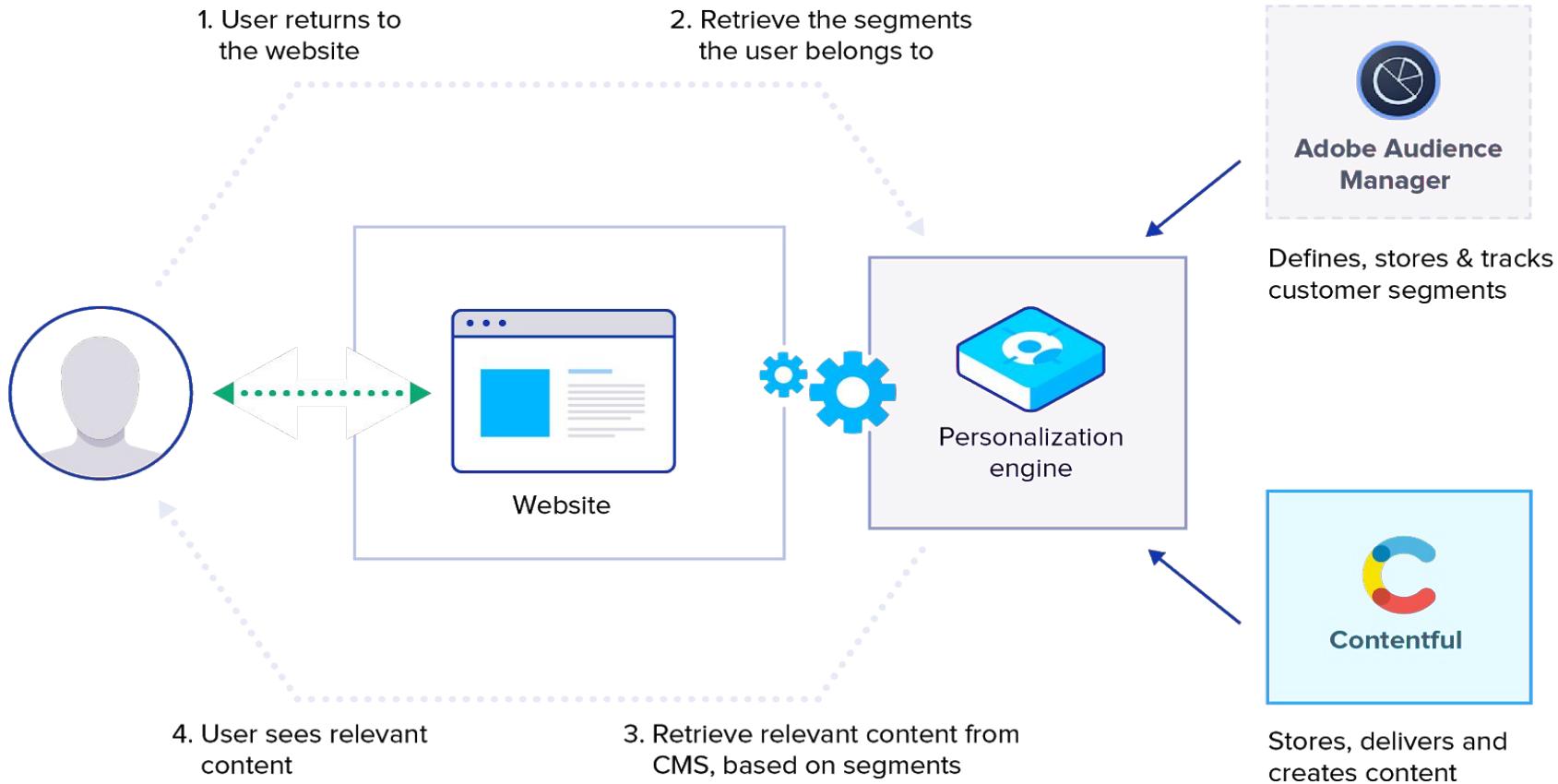
Content Infrastructure: Developer Workflow



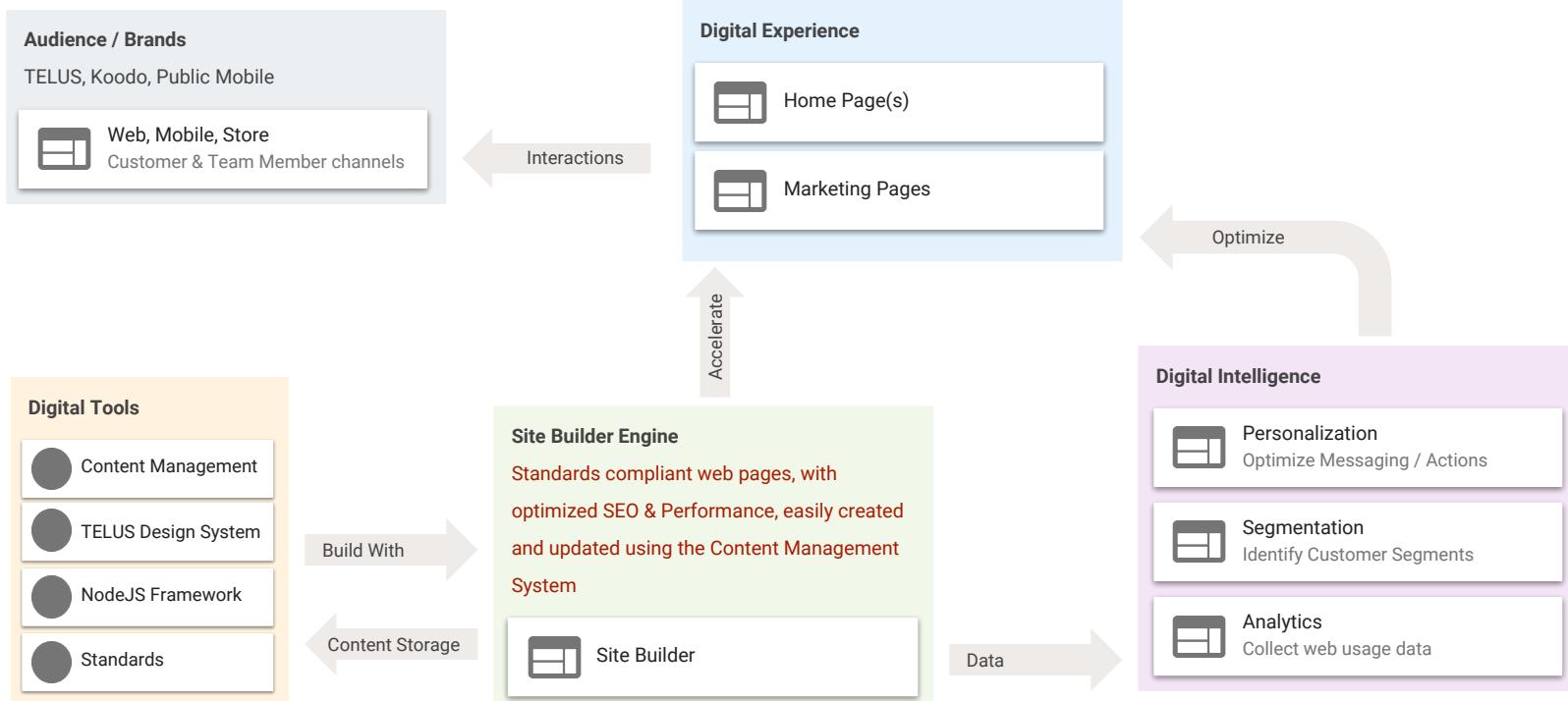
Content Infrastructure: Using Data



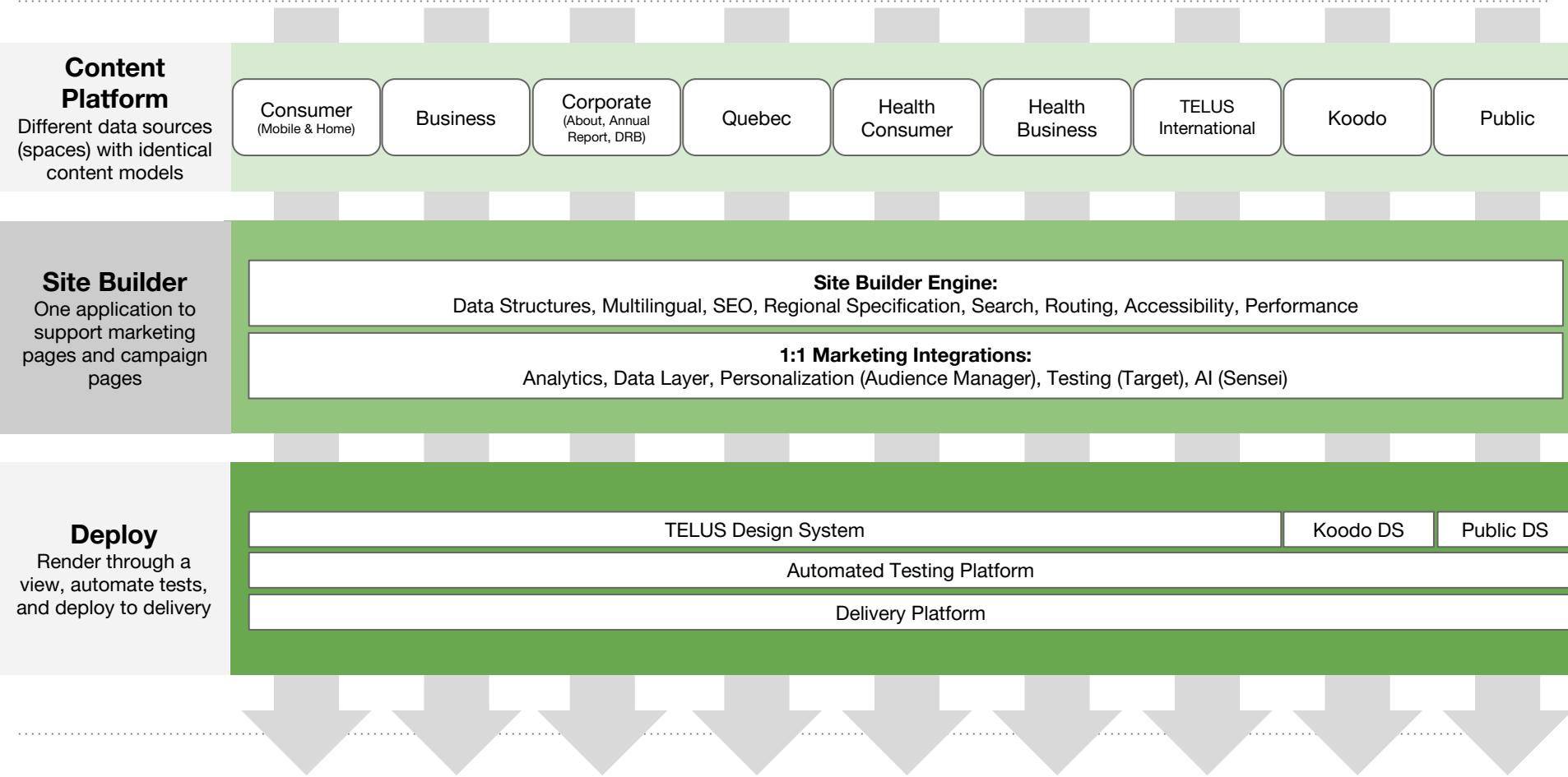
Content Infrastructure: Personalization



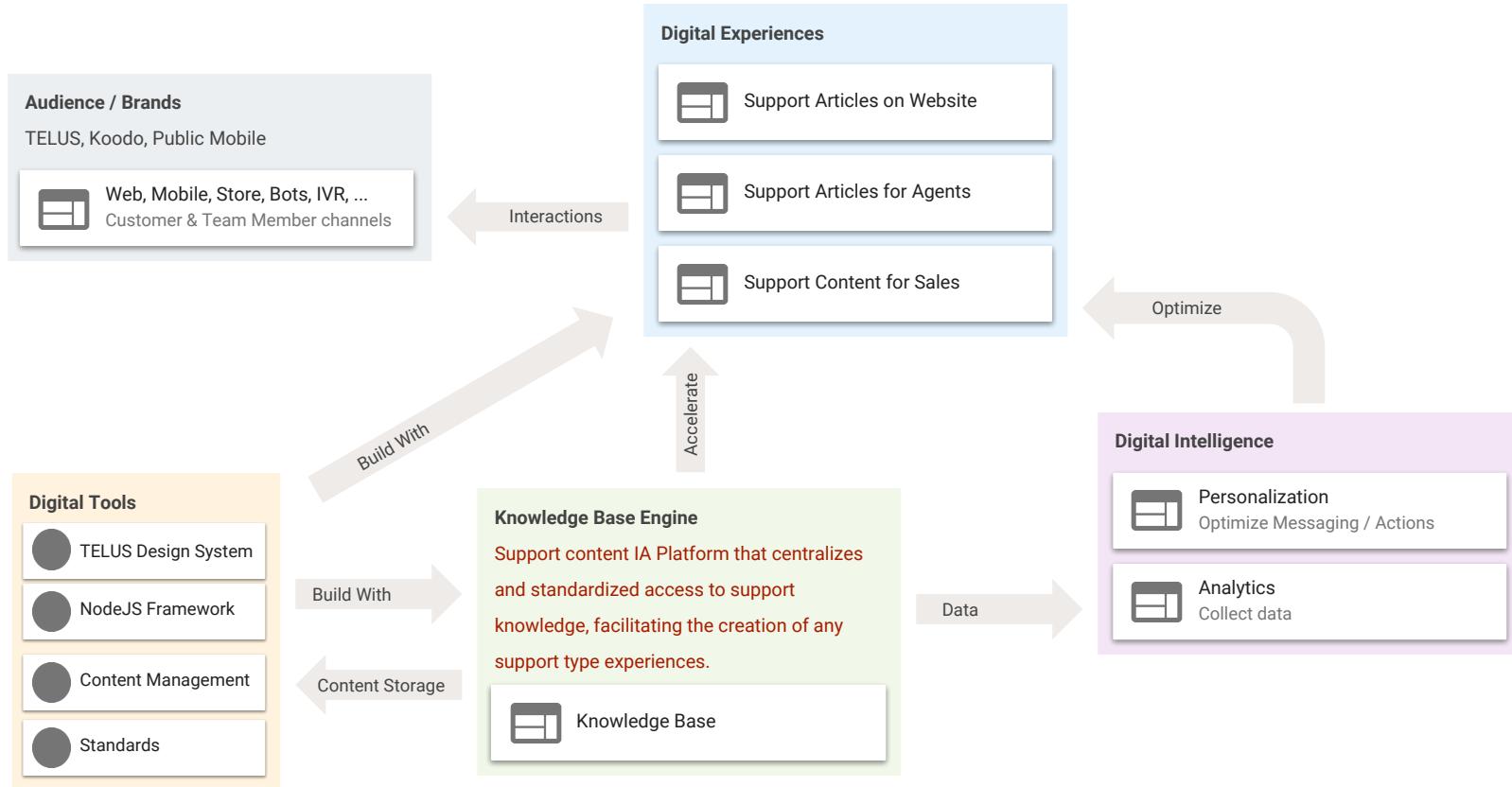
Content Infrastructure: Marketing Applications



Content Infrastructure: Application Architecture



Content Infrastructure: Support Architecture



Content Infrastructure: Products, Programs, Practice



Platform

Contentful							
Products		Programs		Practice			
Site Builder	Message Builder	Enterprise Comms (ECP)	Multicultural TELUS	Office Hours			
Redux-Contentful	UI Extensions	Legacy CMS Retirement	Spaces Consolidation	Contentful 101 Monthly			
GraphQL	Article Engine	DRB Revamp	TELUS Quebec & Health	Workshops, Guilds			
CLI	Migrate & Transform	Marketing Cloud Integration	AI Integration	Meeting Mondays			
User Success							
User Services		Support & Tracking		Consulting / Advisory	Integration Dev Pairing	Meeting Mondays	Lunch & Learns
User Services		Account Provisioning		Data Modelling	Critique / Review	Meetups & Events	Contentful Community
User Services		Communications		Onboarding	Quality Assurance	Blogs, Lessons Learned	Thought Leadership
User Services		Certification Program		Custom Training	Q&A		

Visionary

Performance Oriented

Enablement

Content Infrastructure: Products, Programs, Practice



Platform

Platform satisfies fundamentals: Data Models, Data Storage, Asset Storage, CDN

Products

Products enable quick win customer experiences, data retrieval, referencing content between spaces, moving and transforming data across spaces.

Customer Experience: Redux-Contentful, UI Extensions, GraphQL API, Article Engine, CLI
Data Model: Migrate & Transform

Programs

Programs enable Tech Debt retirement, increased business capabilities, increase speed to market, and present the right content at the right time for our customers.

Tech Debt: DRB Revamp, DRB Retire, DRB Consolidation
Business Capabilities: TELUS Quebec & Health, TELUS Public, TELUS One Source
Speed to Market: DRB Revamp, DRB Retire, DRB Consolidation
Content: Content Strategy, Content Delivery, Content Management, Content Marketing, Content Optimization, Content Personalization, Content Localization, Content Curation, Content Archiving, Content Reuse, Content Syndication, Content Distribution, Content Monetization, Content Security, Content Compliance, Content Accessibility, Content Usability, Content UX, Content UI, Content Design, Content Production, Content Quality Assurance, Content Testing, Content QA, Content Dev Pairing, Content Onboarding, Content Training, Content Mentoring, Content Coaching, Content Consulting, Content Critique, Content Review, Content QA, Content Q&A

Practice

Practice Office Hours
Leadership Monthly
raises the bar of workshops, builds our collective teams at TELUS Meeting Minutes and establishes TELUS as a community Meetups & Events leader in tactical digital innovation. Lessons Learned Thought Leadership

User Success

User Success enable better adoption, utilization, and quality of our Products & Programs.

Support & Tracking: Customer SME Onsite Visits, Technical Support, Reporting, Portal Communications: Audits & Quarterly Reviews, Certification Program, Collaboration Tools

User Services

User Services enable scale, influence, and incredible tailored implementation value for partners such as Quebec, Health, Koodo, Public, One Source, etc...

Support & Tracking: Customer SME Onsite Visits, Technical Support, Reporting, Portal Communications: Audits & Quarterly Reviews, Certification Program, Collaboration Tools
Data Model: Data Modeling, Data Architecture, Data Governance, Data Integration, Data Migration, Data Transformation, Data Cleaning, Data Validation, Data Quality, Data Privacy, Data Security, Data Compliance, Data Accessibility, Data Usability, Data UX, Data UI, Data Design, Data Production, Data Quality Assurance, Data Testing, Data QA, Data Dev Pairing, Data Onboarding, Data Training, Data Mentoring, Data Coaching, Data Consulting, Data Critique, Data Review, Data QA, Data Q&A

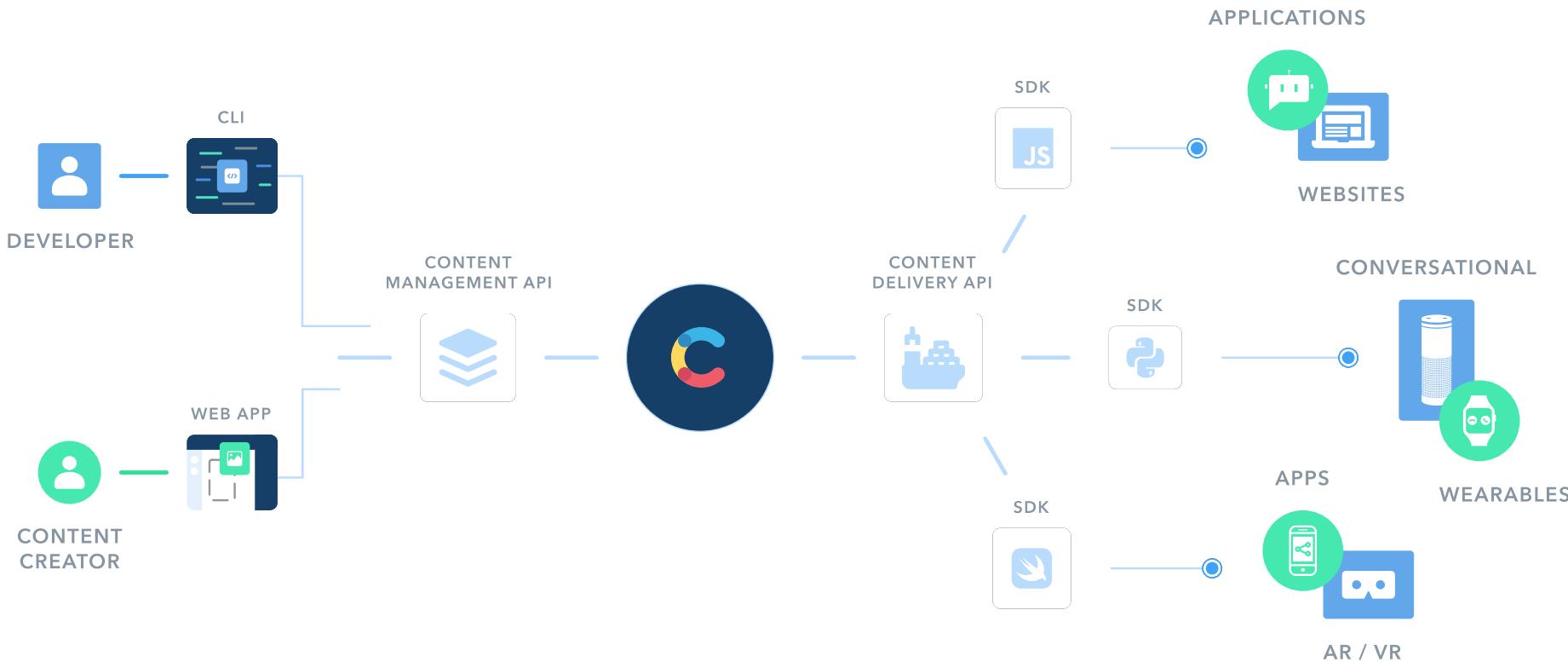
Initiatives that solve future challenges today

Initiatives that improve efficiency and effectiveness

Initiatives that enable our teams to succeed

How does
 contentful
work?

Architecture



Content Modelling

Case Study - Entry [Edit](#)

[+ Add field](#) Fields (11) JSON preview

- Slug Short text
- Logo Media
- Title Long text
- Subtitle Long text
- Background Image Media
- Introduction Long text
- Requirements Short text, list
- Results Short text, list
- Content Long text
- Customers References, many
- PDF Media

and running

Case study: ASICS

AQ make marathon racing more engaging with the Contentful platform

viewed the digital agency AQ to develop a companion app for runners. The app was to provide useful tips and key information in the run up to, during and after an actual race. In the app, AQ tackled a number of content-related challenges detailed below.

Requirements

- An easy way to collaborate with the client while creating content
- Support development of custom content models
- A system that simplifies mobile app development process

Results

- Centralized system for collaborating on content

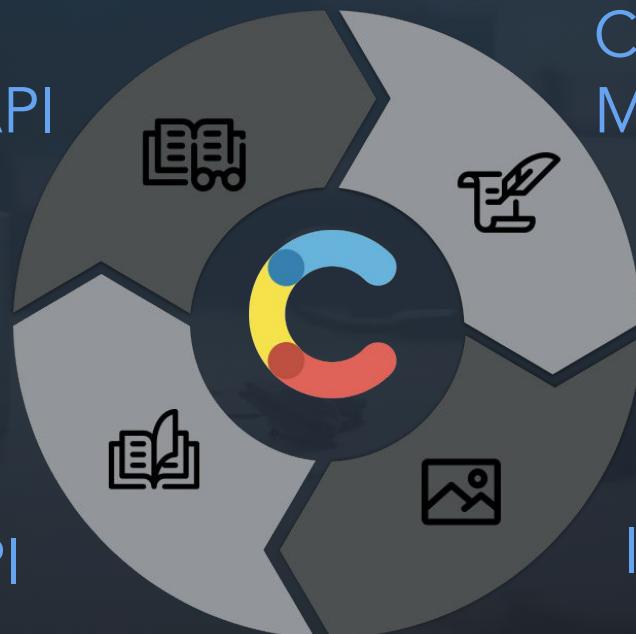
4 APIs are at the foundation of Contentful

Content
Delivery API

Content
Management API

Content
Preview API

Images API



Flexible enough to handle any kind of digital product

Think outside the CMS box



Chatbot with product recommendations



Multivariate testing
Learning academy
Microsites



On-ship digital experiences:
kiosks, displays, menus, etc.



Super Bowl campaign
Employee training app



Audio guides
Interactive displays
Immersive website



Content Model as Code

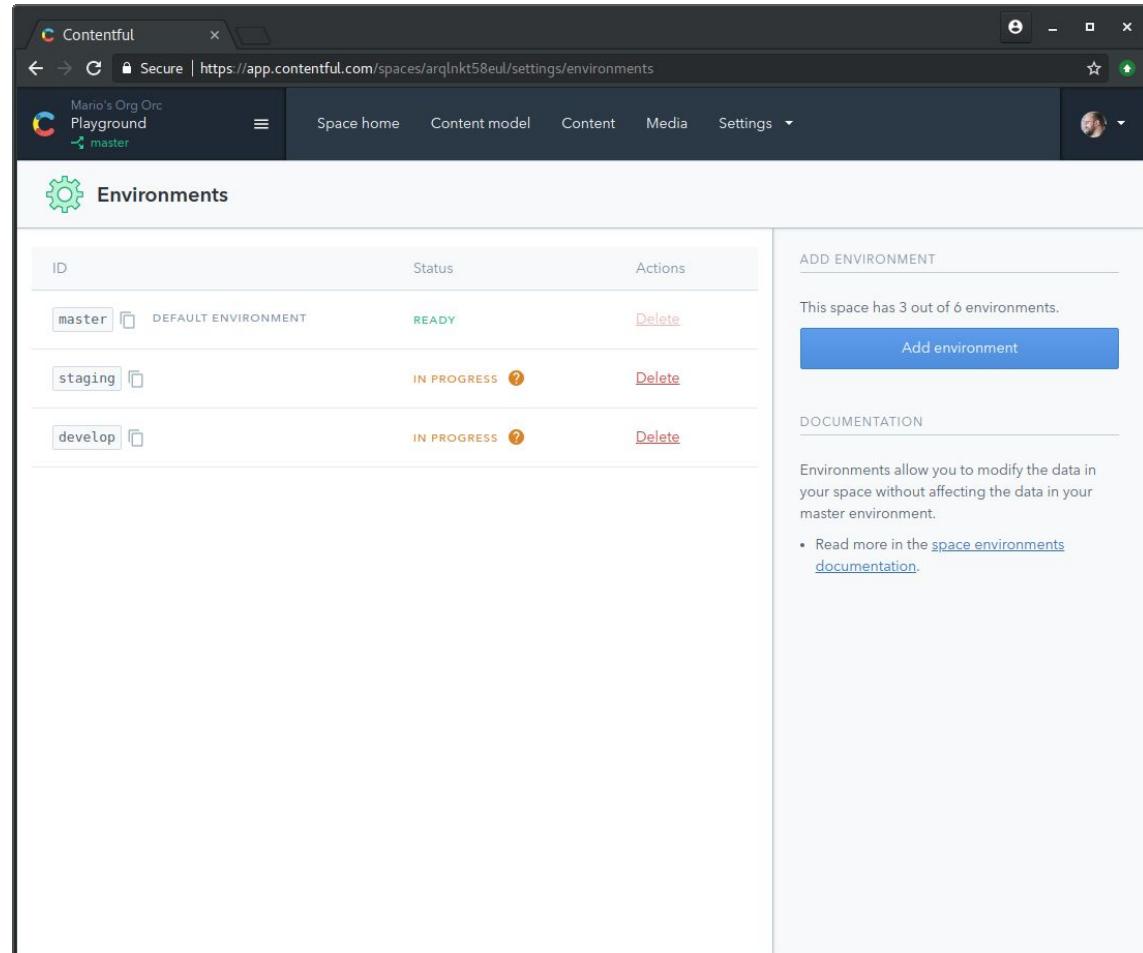
```
module.exports = function (migration) {  
  const page = migration.createContentType('page')  
    .name('Page')  
    .description('A page on our site')  
    .displayField('title');  
  
  page.createField('title')  
    .name('Title')  
    .type('Symbol');  
  
  page.createField('slug')  
    .name('Slug')  
    .type('Symbol')  
    .required(true);  
}
```

Migrations 🚚

```
module.exports = function (migration) {
  migration.deriveLinkedEntries({
    contentType: '1kUEViTN4EmGiEaaeC6ouY',
    from: ['profilePhoto', 'firstName', 'lastName'],
    toReferenceField: 'profilePhoto_new',
    derivedContentType: 'media',
    derivedFields: ['name', 'photo'],
    identityKey: async (from) => {
      return `${from.firstName['en-US']}-${from.lastName['en-US']}`
    },
    deriveEntryForLocale: async (from, locale) => {
      return {
        name: `${from.firstName[locale]} ${from.lastName[locale]}`,
        photo: from.profilePhoto[locale]
      }
    }
  });
};
```

BETA

Environments



The screenshot shows the Contentful web interface for managing environments. At the top, the URL is https://app.contentful.com/spaces/arglnkt58eu1/settings/environments. The left sidebar shows "Mario's Org Orc Playground" with a "master" branch selected. The main area is titled "Environments". A table lists three environments:

ID	Status	Actions
master	READY	Delete
staging	IN PROGRESS	Delete
develop	IN PROGRESS	Delete

To the right of the table, there is an "ADD ENVIRONMENT" section with a blue "Add environment" button. Below this, a "DOCUMENTATION" section provides information about environments and links to the "space environments documentation".

ADD ENVIRONMENT

This space has 3 out of 6 environments.

Add environment

DOCUMENTATION

Environments allow you to modify the data in your space without affecting the data in your master environment.

- Read more in the [space environments documentation](#).

Plays well with others

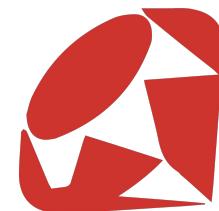
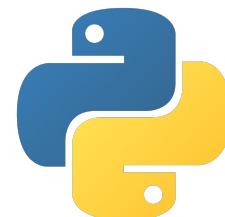
Optimizely Results



Variations	Visitors	hero_cta_click	slide1_view	slide2_view	slide3_view
[EXPERIMENT] Homepage Default (No Carousel)	411 27.22%	- 4.38%	- 0%	- 0%	- 0%
Homepage	1099 72.78%	-16.89% 3.64% >100,000 visitors remaining	- 14.92% > 100,000 visitors remaining	- 10.56% > 100,000 visitors remaining	- 8.01% >100,000 visitors remaining

[View full results on Optimizely](#)

Powerful SDKs



TELUS digital

Results

iPhone X Launch



iPhone X Launch - Social

**Murtz Jaffer** • @murtzjaffer · Oct 27

Massive improvement @TELUS @TELUSsupport for the pre-order. Kudos to the team who set up the new system.

**Dave Zulak** @dzulak · 5h

Wow, Telus is really killing it and crickets from **Rogers**....as usual **iPhone X** may be with Telus....@TELUSsupport @Rogers

**Keenan Ryan**
@Keenanryan[Follow](#)

Went back to @TELUSsupport today after being with @Rogers for only a month missed Telus and plus got the new #iPhoneX with a Nov 2 Ship day

**Ryan Smith** @rsmith · Oct 27

iPhone X 256GB pre-ordered. Smoothest ordering from @TELUS has ever been for an iPhone launch!



DJ PHOENIX
@DJPh03NiX

Follow

All my friends on telus bragging how they
pre-ordered their iPhone X and I'm here with
@rogers like... #iphonex #iphonexpreorder

1st

To Market - beating Apple, Best Buy, and competitors

2nd

Time this has happened (Samsung S8 Launch)

Content Infrastructure: Tech Stack Simplification



Before



After

Content Infrastructure: Prod Content Object Publish, Edit, Revised



~112,000

Object oriented content: content objects created, revised, and published to customers in Q4 of 2017

Content Infrastructure: Average Software Releases



20+

Average software releases per day per product (up to 400 code deploys daily)

Content Infrastructure: Digital Sales



4x

Improvement in Digital sales (Q4 of 2017)

Content Infrastructure: PageSpeed



PageSpeed improvement (CDN,
CDA, Image Optimization)

Content Infrastructure: User Expansion



350

Users: Content
Managers, Product
Owners, Marketers, UX



1000

2018 Target for Users

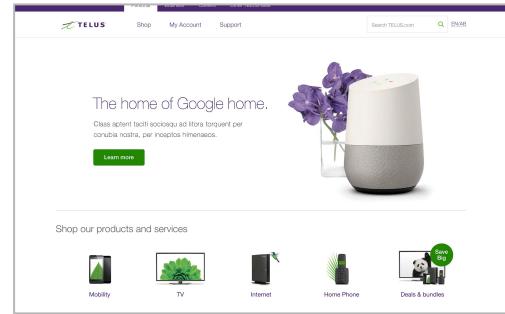
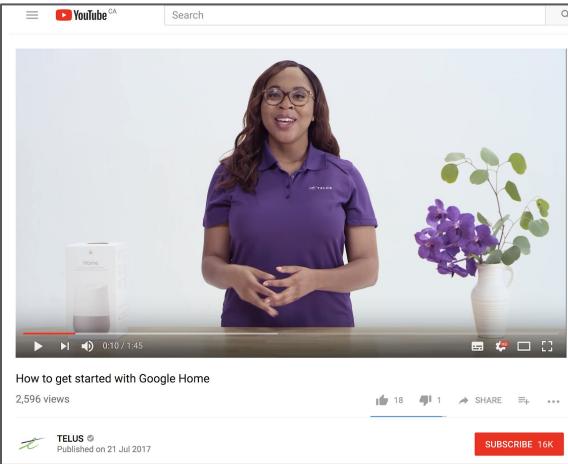
Content Infrastructure: Speed to Market



4x

Faster to market

Content Infrastructure: Consistent Customer Experiences



Integrated Campaigns

Consistent Content

All CX touchpoints

Content Infrastructure: Increased Conversion

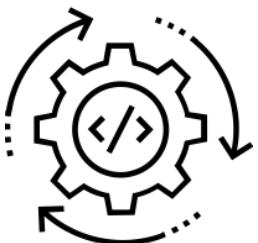


14%

A large purple circle contains the white text "14%".

Increased conversion by using
consistent content & personalization

Content Infrastructure: Just getting started.



Continuous Learning



- 1 **Turning off Legacy CMS** in favour of flexible Content Infrastructure took costs out of the business.
- 2 Content Infrastructure **reduced Content Operations efforts** and took costs out of the business.
- 3 **Object Oriented Content** and **reuse** of content in support self-service took costs out of the business.
- 4 **Personalized** and **anticipatory experiences** increase conversion and revenue for TELUS.



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