AMD

AMD: 16 Years of DITA Content

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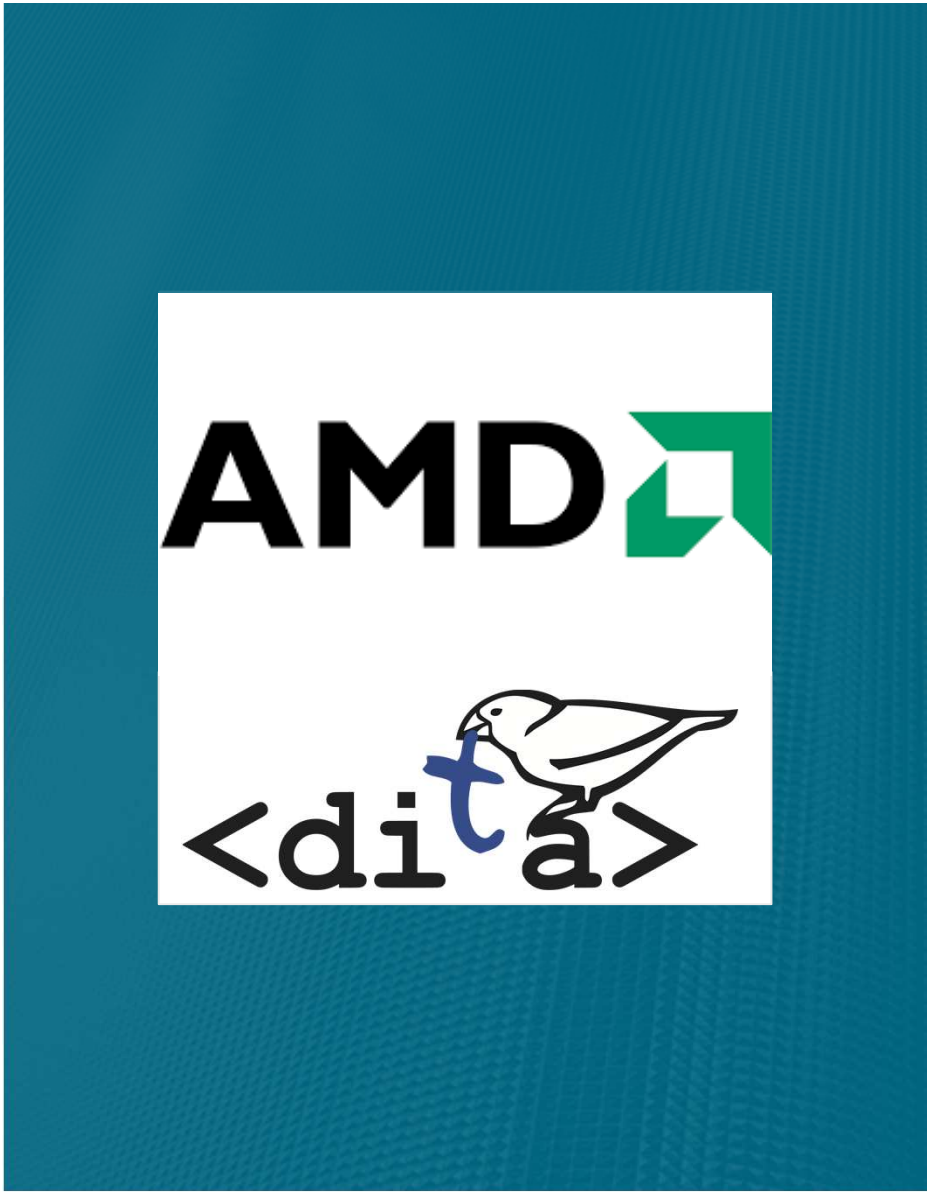

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Agenda

- How it All Started + The Early Years
- DITA Specializations We Use
- Production Statistics
- Getting a New CCMS

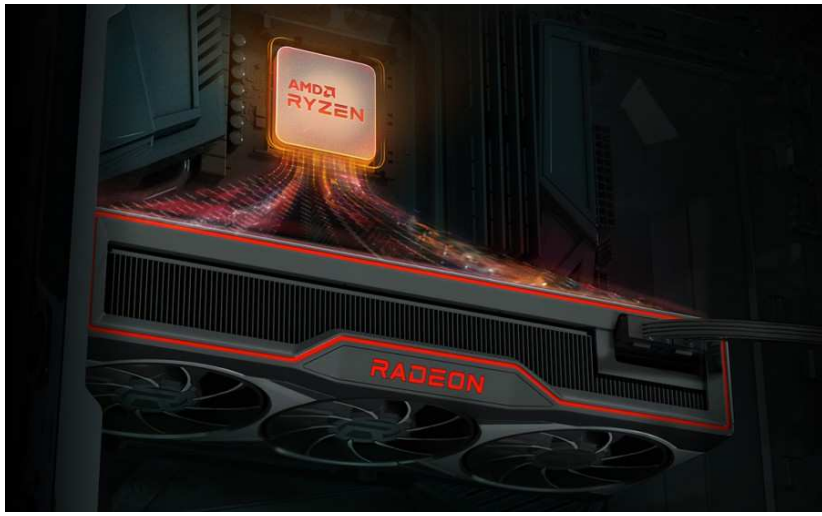
Who's This Guy?

Keith Schengili-Roberts

- Manager Technical Documentation, Data Center GPU and Accelerated Processing
- Also host of the "DITAWriter.com" website
- Occasional Lecturer of Information Architecture at the University of Toronto
- As you will see, I am interested in DITA metrics

Background on AMD

- Founded in 1969 as a Silicon Valley start-up, the AMD journey began with dozens of employees focused on leading-edge semiconductor products.
- AMD has grown into a global company setting the standard for modern computing through major technological achievements and many important industry firsts along the way.
- Today, AMD offers the industry's broadest portfolio of leadership high-performance and adaptive processor technologies, combining CPUs, GPUs, FPGAs, Adaptive SoCs and deep software expertise to enable leadership computing platforms for cloud, edge and end devices.



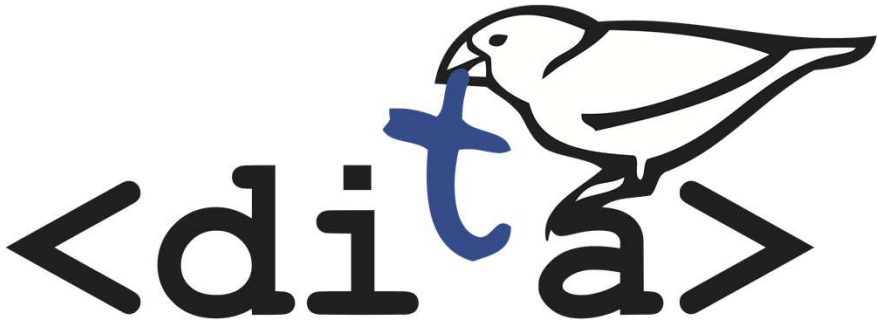
Situation in the Early 2000s

Situation in Markham (ATI) office back in the early 2000s:

- Multiple technical writers working on documentation for graphics cards; both for engineering and end-user audiences; published to both PDF and to compiled online help formats
- Translated select document types in up to 21 languages
  - This was very expensive; each document was tackled as a whole
- FrameMaker used extensively, but problematic; several hundred-plus page documents might take the better part of a day to publish, *if it didn't freeze*
  - Freezing was a serious issue at the time, and sometimes delayed publications by several days
- Content was siloed, leading to inconsistent documentation
  - To combat this, individual FrameMaker files were shared on a software development version control system
- Existing system was expensive and inefficient

What's this "DITA" Thing?

- Then-manager Kevin Ballard came to the group and found that it suffered from what he called "my-way-itis", with errors and inefficiencies piling up
- TechDocs Management sought a solution that would make publishing more consistent, easier for the writers to work with, and reduce localization costs
- He went to a CIDM conference in San Francisco back in 2004 and learned about DITA XML (IBM and Nokia presented on the topic)
  - Its promise of improving the quality of content, reducing the cost of localization, and removing the task of formatting from authors was compelling



ATI and Ixiasoft Create a CCMS

- Kevin Ballard tasked a couple of members of his team (including the presenter), to explore the evolving DITA standard which was not yet finalized
- This led to the exploration of existing tools that could support XML authoring and management
  - There wasn't a lot available at the time, and after reviewing what was on the market, none of the vendors had a satisfactory product for our needs
- But one vendor, Ixiasoft, had a *really good* XML-based repository (TeXtML), but no front-end graphical user interface for it
- After some negotiations, ATI agreed to co-fund development of a front-end GUI; this led to the creation of the Ixiasoft DITA CCMS

Making DITA that Was Pre-DITA 1.0

- There was an early decision to go with DITA, but it had not been officially released by the time the Ixiasoft DITA CCMS v.1.0 was ready
  - We ended up with a working DITA-based CCMS, but without an official DITA standard
- A DTD was put together, based on preliminary, pre-DITA 1.0 knowledge and best guesses as to what we thought would be coming
- The result: an ATI DTD for DITA, containing specialized maps, topics, and elements
  - The next few slides outline some of the major differences; the intent is to provide some understanding as to how it works, and some of the decision processes behind it
  - It is a version of DITA that went down a similar but different path

atimaps

- This ended up being something between a map and a ditamap
- vardefs (variable definitions) were created to be added to the atimap; closer to variables than to keys
  - In topics, vardefs are resolved using textvars, similar to keys (map) and conkeyref (topic)
- connectref (connector reference) was created as an equivalent to chapter in modern DITA
- leafref (leaf reference) is an equivalent to topicref in modern DITA

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE atimap PUBLIC "-//ATI//DTD ATI DITA Map//EN" "../../system/dtd/client/AtiMap.dtd">
<atimap id="wwo1205529388942" title="ATI™ FireGL™ V7700" xml:lang="eng">
    <enhancedtopicmeta ixia_locid="1">
        <keywords/>
        <vardefs>
            <vardef ixia_locid="2" name="ProductFamily">ATI FireGL</vardef>
            <vardef ixia_locid="3" name="CopyrightYear">2008</vardef>
            <vardef ixia_locid="4" name="CompanyName">Advanced Micro Devices, Inc.</vardef>
            <vardef ixia_locid="5" name="ProductName">ATI FireGL V7700</vardef>
            <vardef ixia_locid="6" name="PartNumber">137-50116-10</vardef>
            <vardef ixia_locid="7" name="RevisionNumber">A</vardef>
        </vardefs>
        <othermeta content="Published document revision 14 [2008/03/20 15:18:04]" name="comment"/>
    </enhancedtopicmeta>
    <connectref href="wwo1178645800929.xml">
        <leafref href="wwo1189795095065.xml"/>
        <leafref href="wwo1199304893943.xml"/>
        <leafref href="wwo1178653045291.xml"/>
        <connectref href="wwo1178650847618.xml">
            <leafref href="sau1145987863237.xml"/>
            <leafref href="wwo1196460625887.xml"/>
            <leafref href="wwo1196460650371.xml"/>
        </connectref>
    </connectref>
    <connectref href="wwo1186502008788.xml">
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        <leafref href="wwo1199304838024.xml"/>
        <leafref href="wwo1200091187471.xml"/>
        <leafref href="wwo1200416984275.xml"/>
    </connectref>
    <connectref href="jfi1173311667721.xml">
        <leafref href="wwo1186518956071.xml"/>
        <leafref href="cpr1157557738563.xml"/>
        <leafref href="wwo1196453086281.xml"/>
        <leafref href="wwo1205529414082.xml"/>
        <leafref href="wwo1200090988438.xml"/>
    </connectref>
```

vardefs vs. keys

- vardefs (variable definitions) represents a path not taken by standard DITA, which went instead with an indirect referencing mechanism (keys)
  - vardef advantages: easy to find, easy to edit within a map, direct referencing/variables easier for technical writers to grasp as a concept
  - vardef disadvantages: there is no sharable source for vardef values which can lead to inconsistencies; their attributes are pre-defined and cannot easily be expanded/are inflexible
    - For example, only five ASIC types are defined; what if your document needs more than that?
- Despite the seeming disadvantages, the vardef approach has worked well for many years. But clearly the evolution of keys (keys, conkeyrefs, keyscopes, etc.) is a more mature solution

Topic Types

We have four topic types:

- Concept
- Task
- Reference
- Connector

The first three are basically the same as the original “core” DITA topic types

- Connector is an explicit chapter break that other topics connect to

Connector Topics

- Its purpose is very basic: to act as a “chapter divider” and to attach topics to
- In the atimap, need to explicitly call a connectref that links to a connector topic
- Options are limited when it comes to adding content to a connector: no images, no tables, just basic paragraph-like content

Map level

```
<connectref href="wwo1178645800929.xml">
    <leafref href="wwo1189795095065.xml"/>
    <leafref href="wwo1199304893943.xml"/>
    <leafref href="wwo1178653045291.xml"/>
    <connectref href="wwo1178650847618.xml">
        <leafref href="sau1145987863237.xml"/>
        <leafref href="wwo1196460625887.xml"/>
        <leafref href="wwo1196460650371.xml"/>
    </connectref>
```

A connector topic

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE connector PUBLIC "-//ATI//DTD ATI DITA Composite//EN" "../../system/dtd/client/AtiDitabase.dtd">
<connector id="wwo1186519995689" xml:lang="eng">
    <title ixia_locid="1">Basic Display Configuration</title>
    <titlealts ixia_locid="2">
        <navtitle ixia_locid="3">Basic Display Configuration</navtitle>
        <searchtitle ixia_locid="4">Basic Display Configuration</searchtitle>
    </titlealts>
    <shortdesc ixia_locid="5">Basic display configuration procedures.</shortdesc>
    <prolog>
        <metadata>
            <othermeta content="Published document revision 31 [2008/03/20 15:17:55]" name="comment"/>
        </metadata>
    </prolog>
    <related-links>
        <linklist>
            <linkinfo ixia_locid="6">This chapter contains basic procedures for configuring your displays. </linkinfo>
        </linklist>
    </related-links>
</connector>
```

Markham Office Working with DITA 1.x

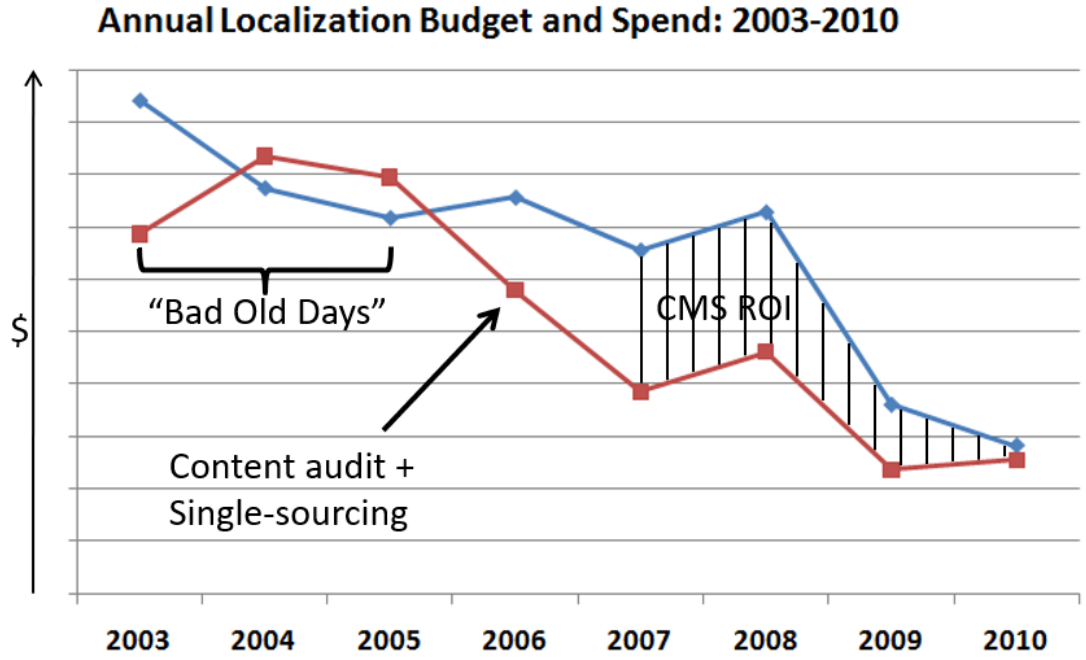
Now that you have seen the “ATI DTD” specializations, keep in mind that we are working with a mix of pre-DITA and DITA 1.0

- Some things that we do not have access to:
  - Additional topic types (troubleshooting, glossentry)
  - Bookmaps
  - Keys and their enhancements (i.e., keyscopes)
  - ditavals
  - Learning & Training specialization/domain
  - Integrated MathML and SVG

  and more…

CCMS Made R.O.I. within Two Years

- Track localization budget and compare to actual amount spent; any positive difference goes towards R.O.I.

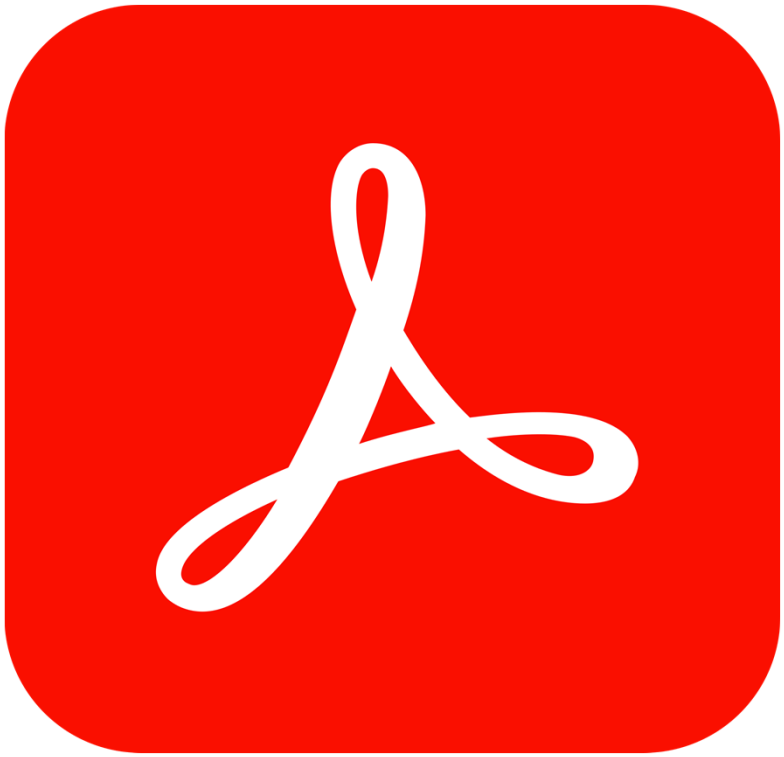


  - Blue line = localization budget for year, Red line = actual localization spend

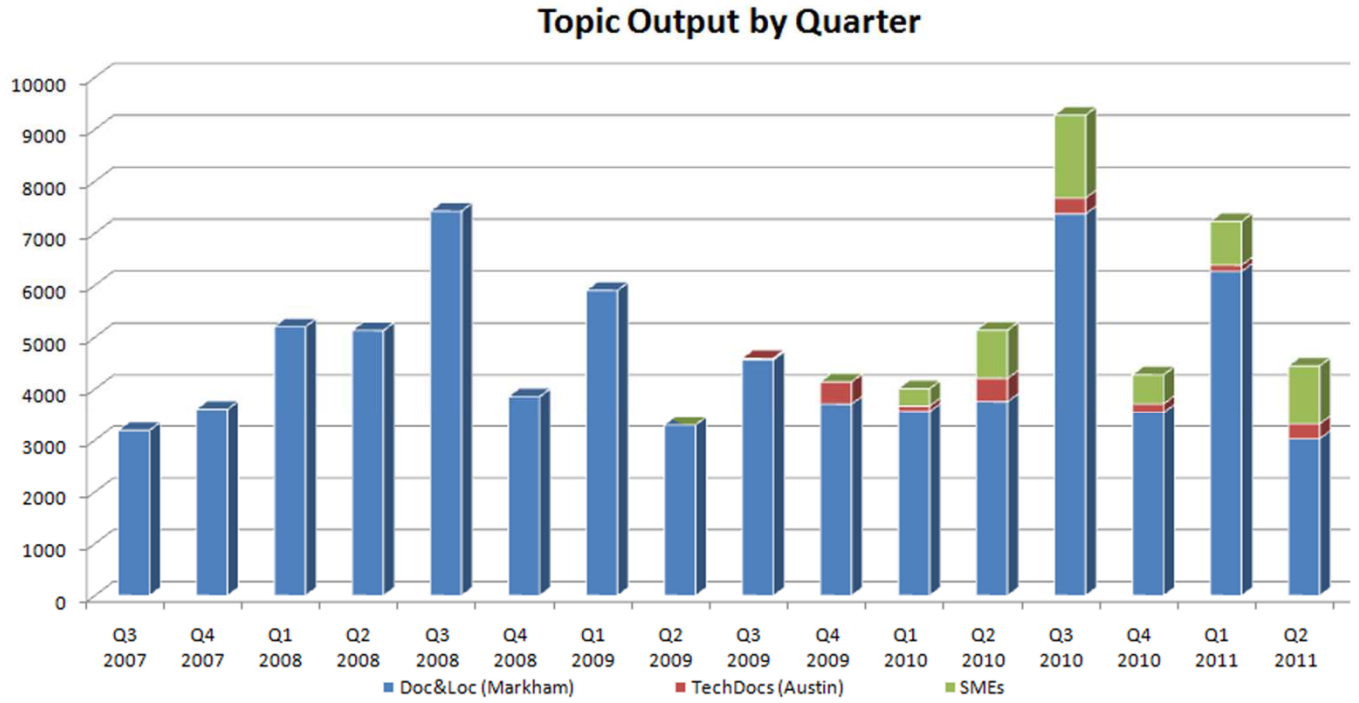
- This slide is from a CIDM presentation I originally did back in 2011

We Now Work Almost Exclusively with PDFs

- In the past, the CCMS was used to create HTML content (compiled HTML) that was used as a help system for Radeon Catalyst software
  - That need stopped in the mid-2010s, along with the need for almost all localization
- Other than that, all other publications were done as PDFs
- Within our business unit (DCGAP), we also provide other collateral, including software and third-party files (such as electrical engineering or thermal certifications)



Initial Topic Production Statistics



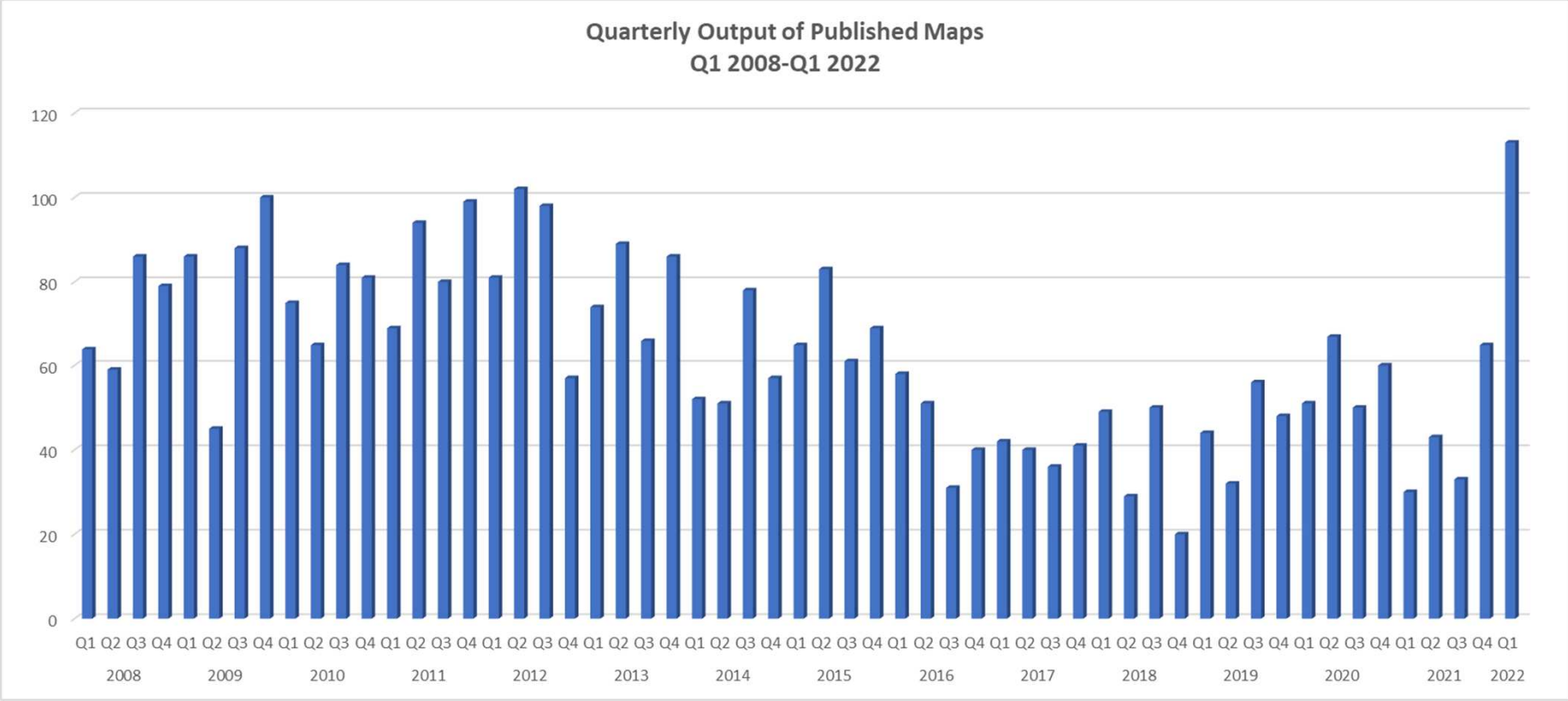
- Measures total topics created/modified within CMS; tends to match GPU release cycle

- Another slide from a different presentation, also from 2011

DITA in the Austin Office

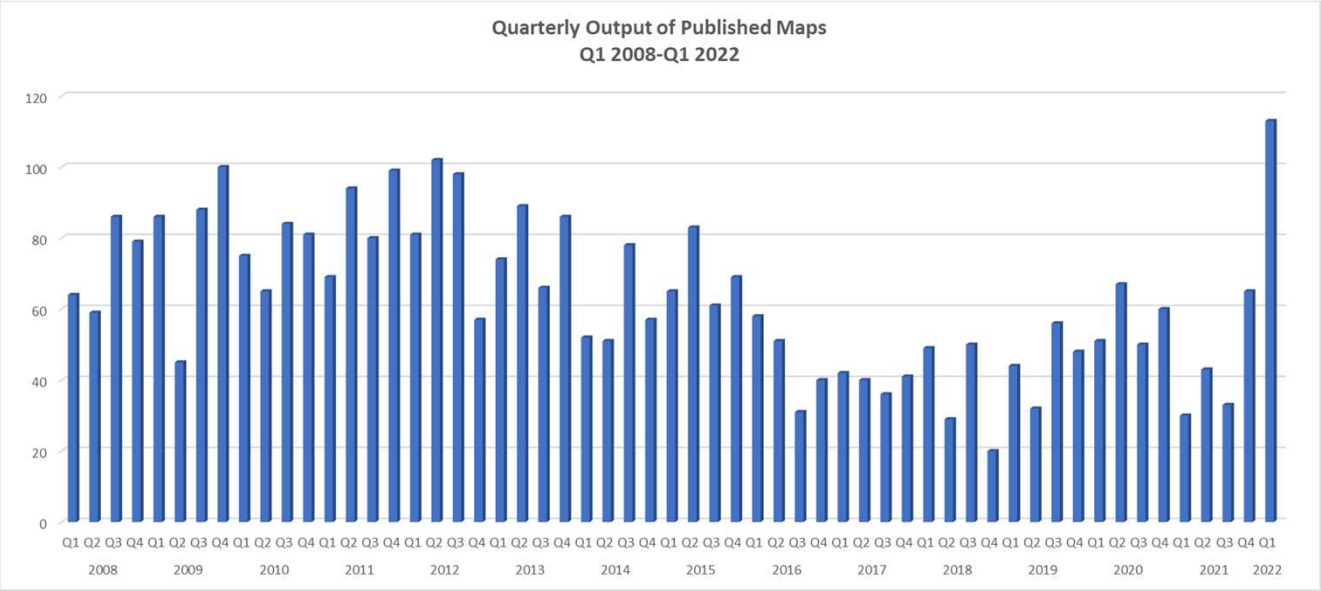
- Austin AMD office faced many of the same technical documentation challenges as the one in Markham.
  - However, the CCMS used in Markham at the time did not have all of the features desired. In particular a need for ditavals and keys.
- Adopted Componize/Alfresco as their own CCMS, which was a better fit
- Authoring was also done in Oxygen, and utilized AntennaHouse for formatting PDFs (same as Markham)
- Did not use the specializations created in Markham, instead used standard DITA 1.2

What Does 15 Years of Production Statistics Look Like?



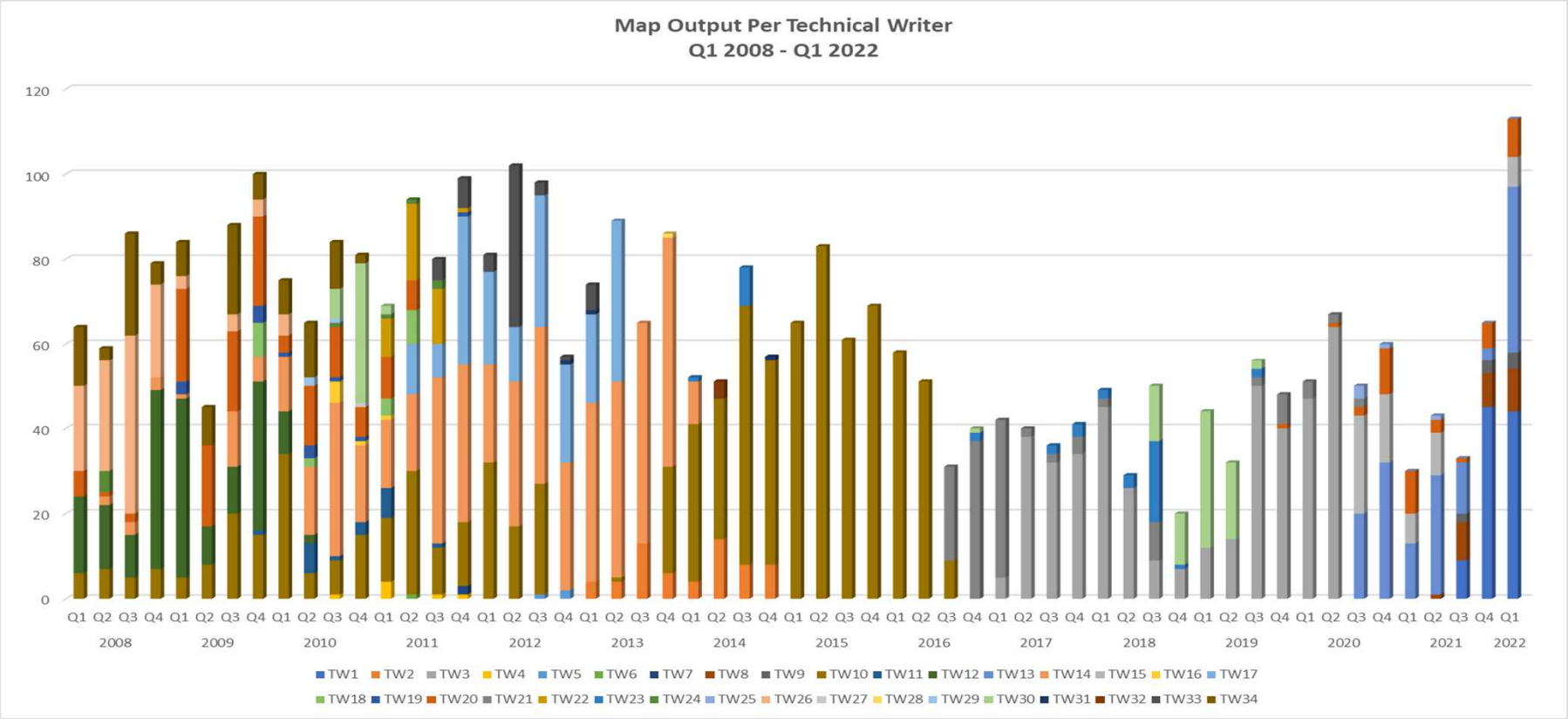
- This shows published DITA maps from Q1 2008 to Q1 2022 (Markham office only)

What's Happening in this Chart



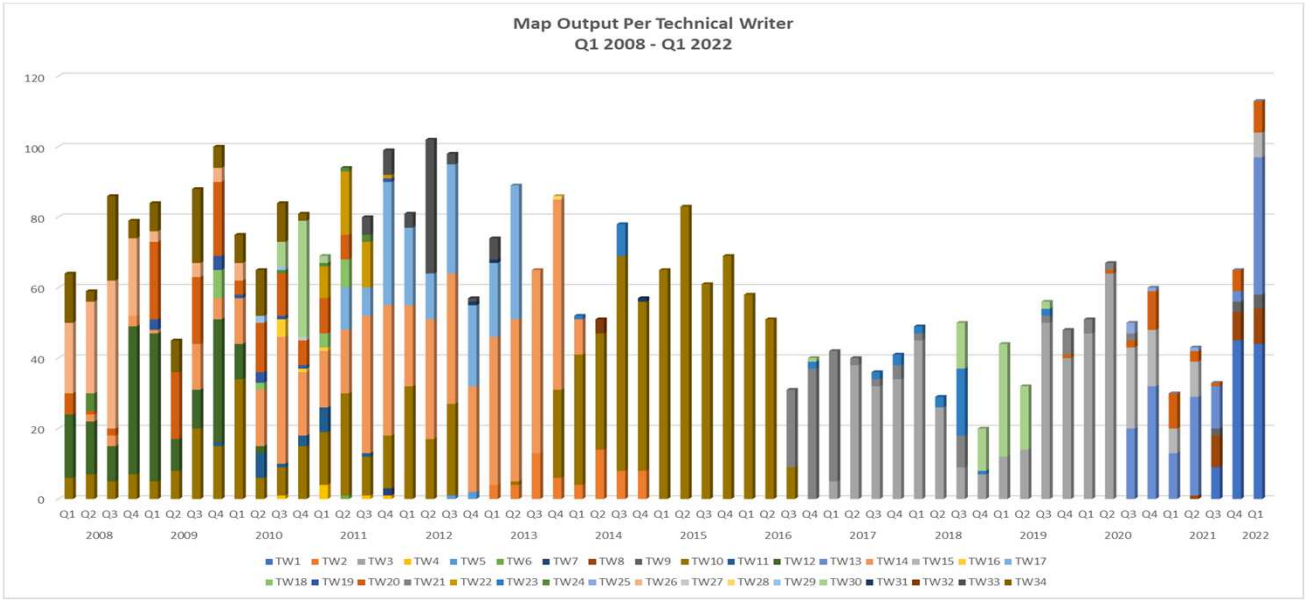
- The CCMS has had steady use since launch
- Over 3,600 individual documents published (including versions)
- There was a dip starting in 2013, with a recent resurgence since 2018-2019

Individual Contributions Over that Same Time



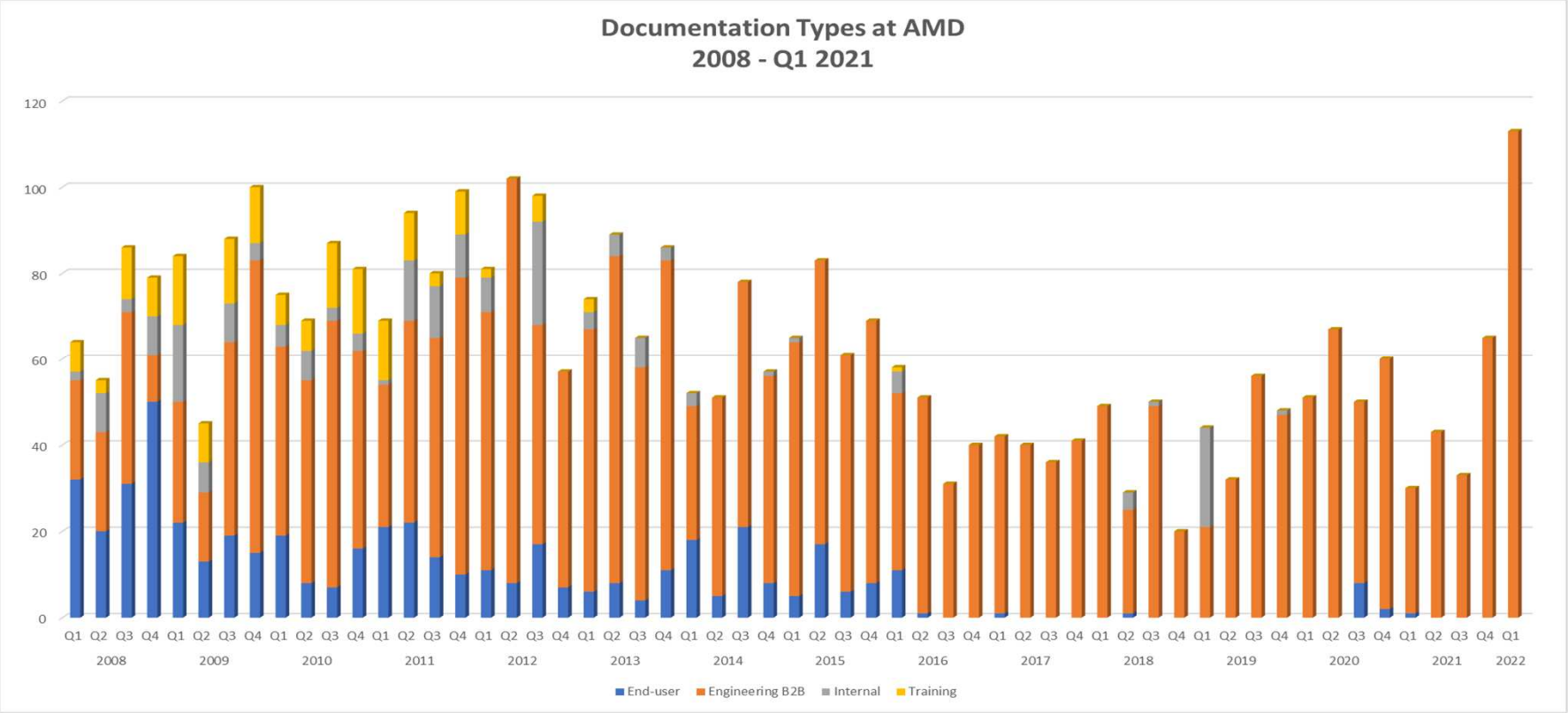
- "TW" is short for Technical Writer, though this also includes SME contributions

What's Happening in this Chart



- There's a lot going on in this chart, which includes detail as to who is producing what:
  - Fewer technical writers working on content from 2013 onwards
  - Recent resurgence reflects new technical writers working in the system
  - Color is specific to a person, so you can see how long people worked as technical writers
    - The dark orange visible in the early years and more recently is the work of the presenter

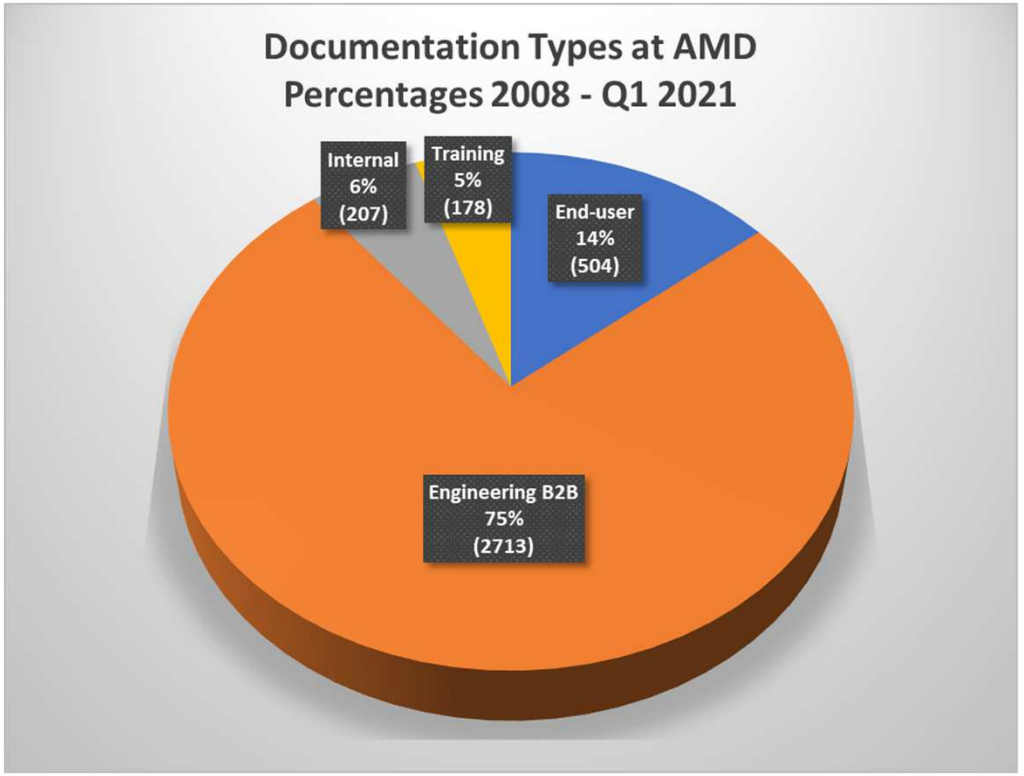
Individual Contributions Over that Same Time



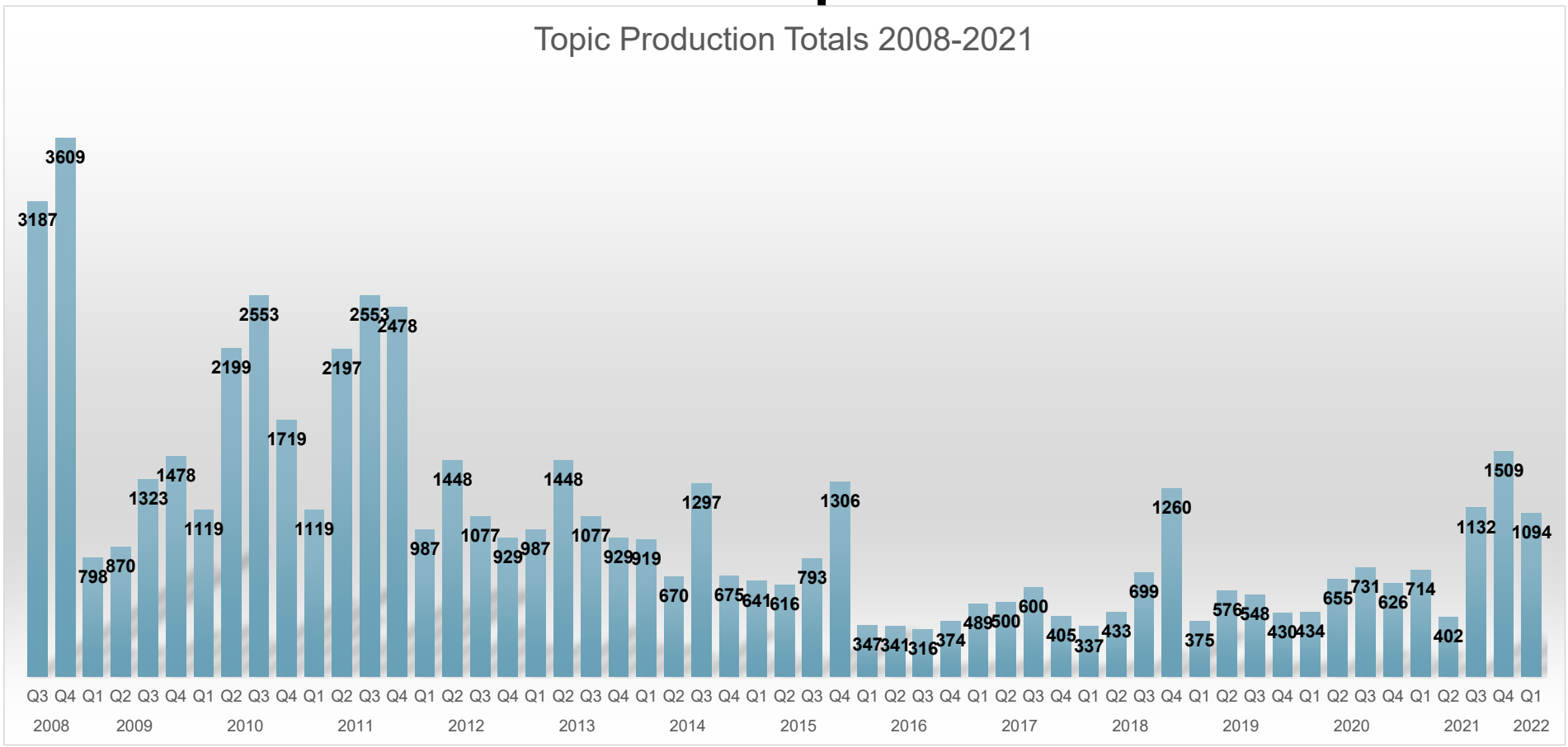
- This slide strongly hints at how documentation goals have changed at Markham office

Ratios of Doc Types Produced

- While the technical writing groups in Markham started with a fairly even mix of end-user and engineering B2B documentation, over time the vast majority of documentation produced within the CCMS has been for engineering B2B purposes
  - Localization was almost exclusively for end-user and training documentation; what was once a driving factor for having the CCMS is no longer a strong need
- All of this represents a fundamental shift in business priorities, and the CCMS (and DITA) was flexible enough to meet that need

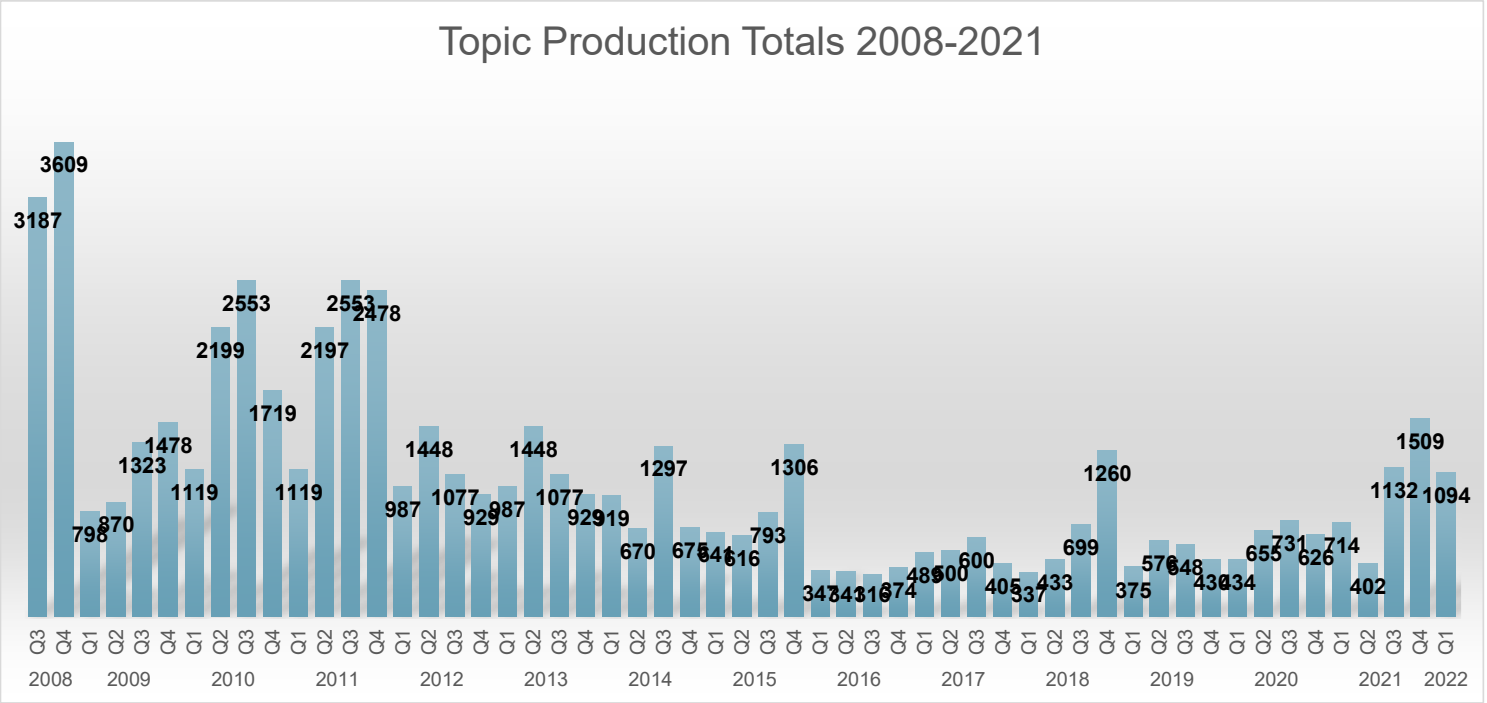


Let's Look at Topic Production

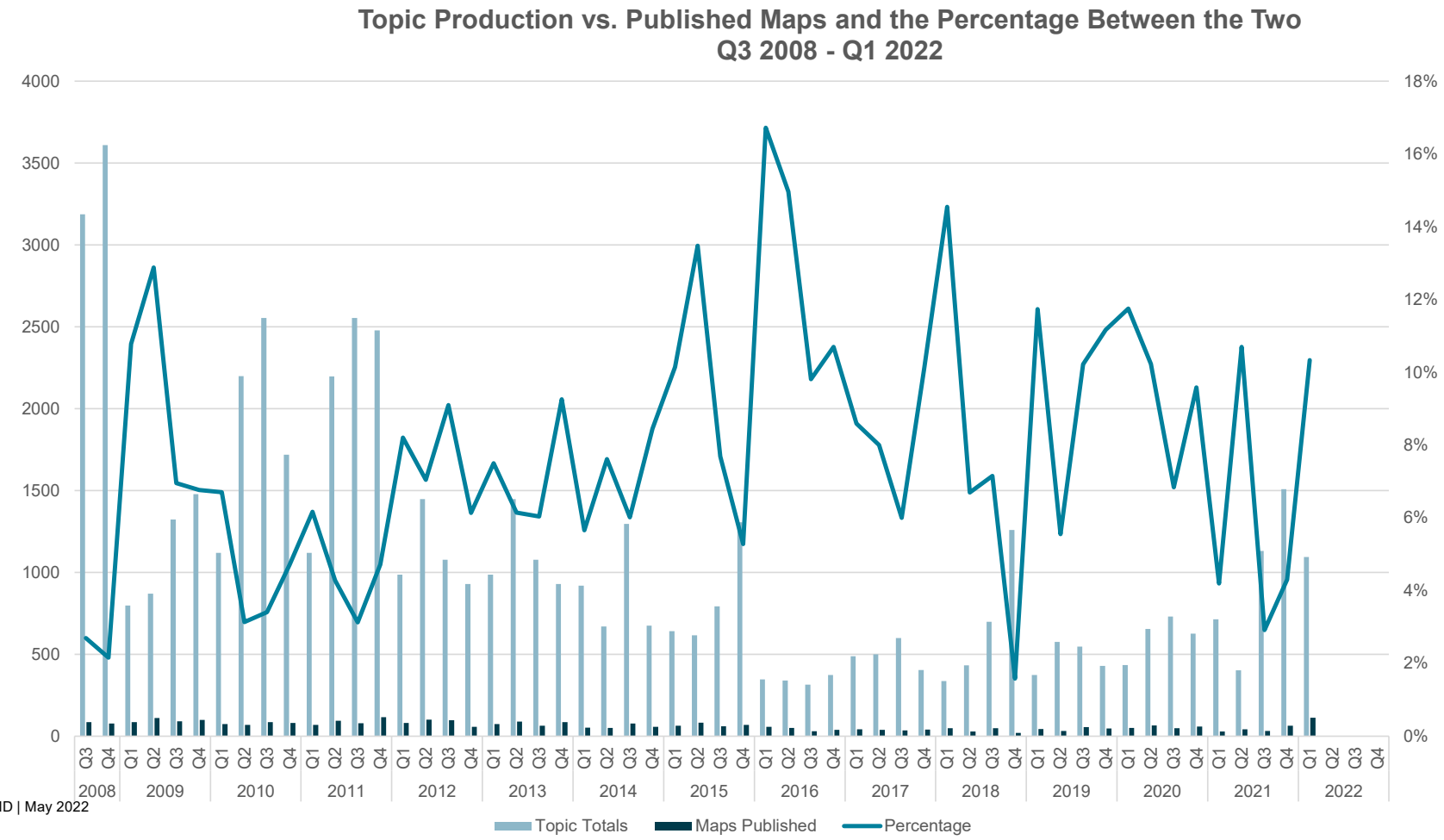


What's Happening in this Chart

- At the beginning there is a lot of topic production, as there is little content reuse at the beginning
- Topic production goes in cycles, roughly in time with product development

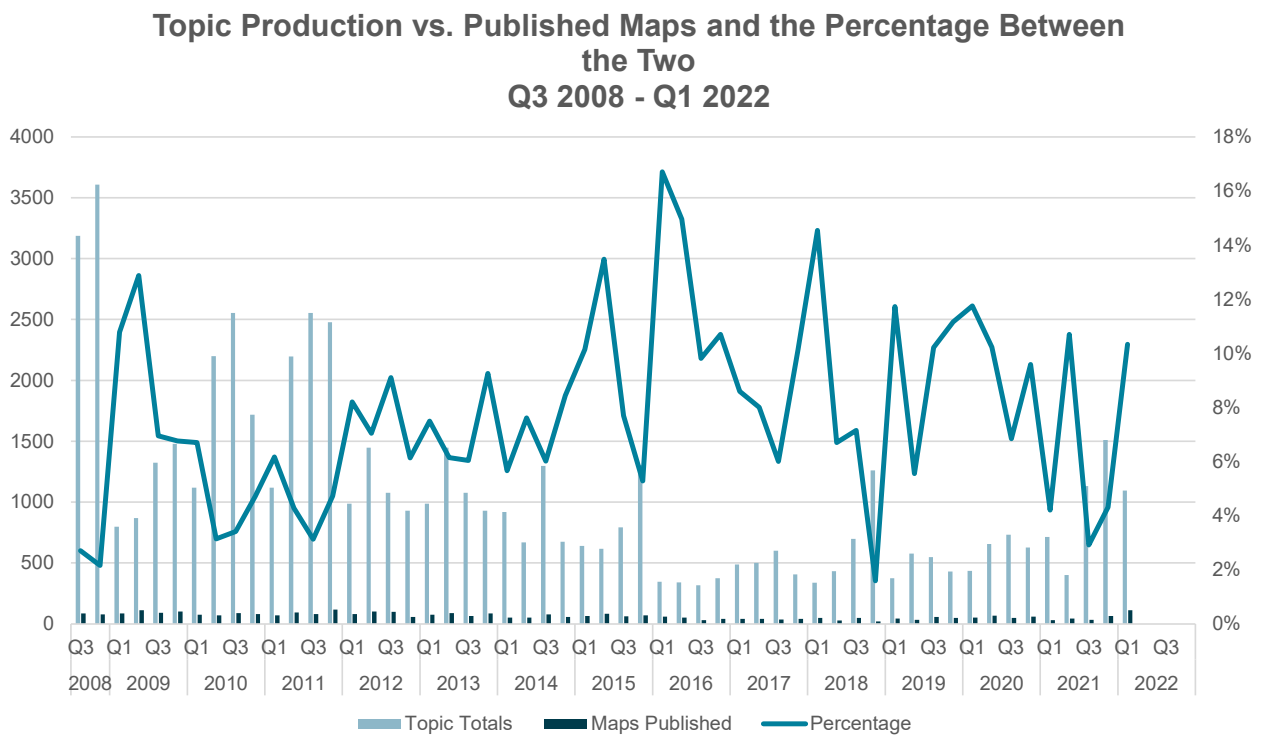


Comparing Topic and Map Production

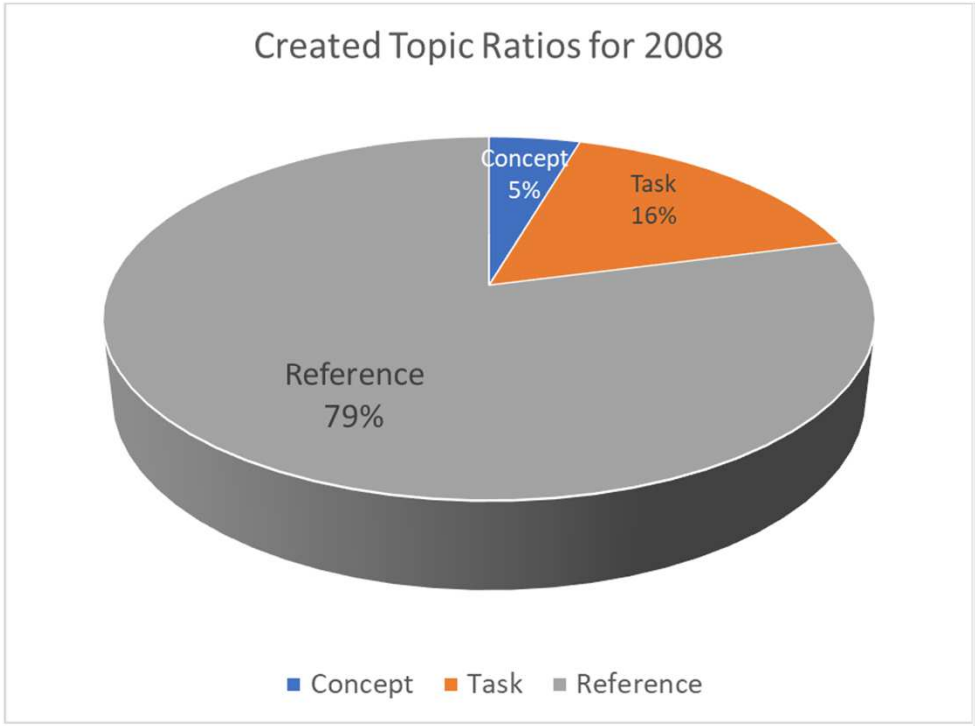


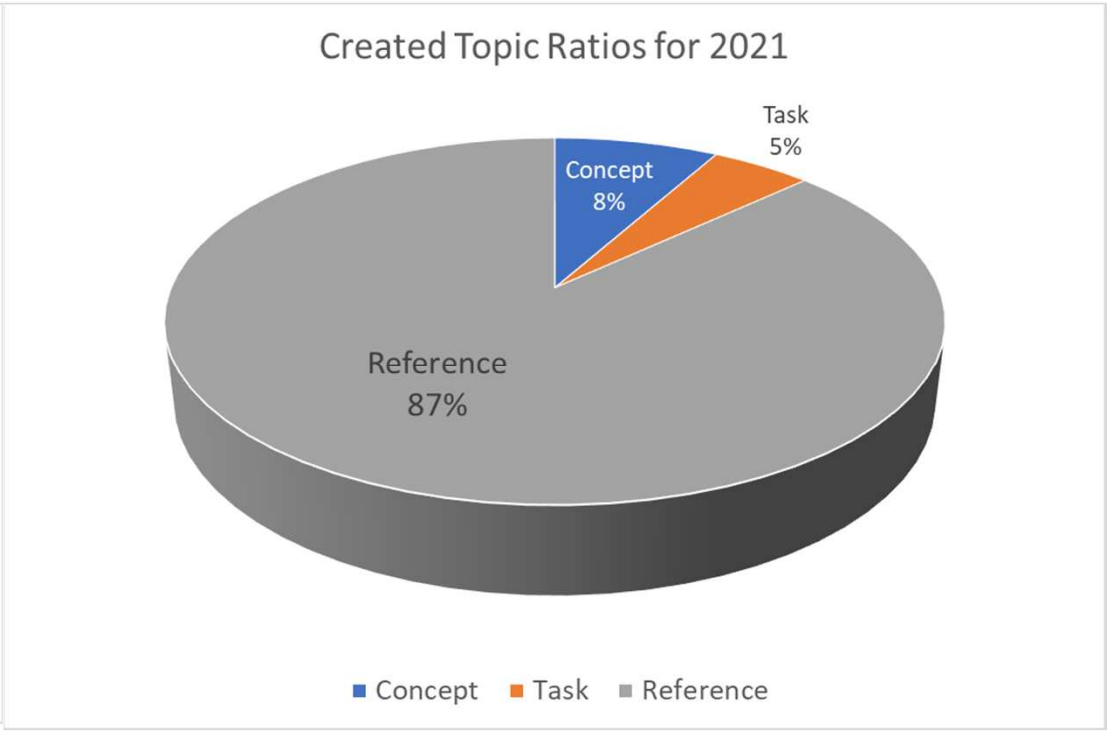
What's Happening in this Chart

- The key thing here is the percentage, which provides a *rough* idea of content reuse
- Definitely cyclic, product-launch dependant; new content is needed which initially brings the percentage value down, and those topics then get reused later in the year
- CCMS is still delivering on reuse



Topic Ratios Then and Now





- 2008 was the year of highest end-user doc production
  - Most of our User Guides told users how to install their graphics cards; not surprising that number of tasks have dropped

Time for a Replacement CCMS

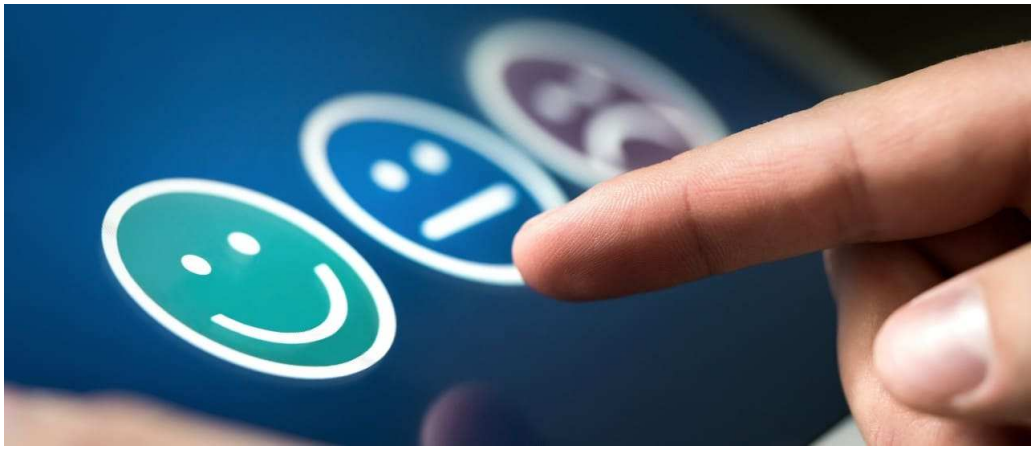
- Existing CCMSs were put under additional strain under COVID; neither system was designed to work with technical writers working remotely
- Both Austin and Markham offices worked on a Request for Information with various CCMS vendors for a single replacement system
  - At time of writing, currently in talks with a CCMS vendor

Working with the Latest Version of DITA

- While both Markham and Austin technical documentation departments have successfully used their systems, we realize that the latest version of DITA offers additional advantages:
  - Greater flexibility with keys
  - Bookmaps offer a better way to structure content
  - Plan to use subjectScheme to add taxonomic terms to our content in order to make them more findable
  - Easier to hire people with experience in the latest DITA standard

Providing a Better Customer Experience

- We see structured content as a means to provide a better user experience for our engineering B2B documentation
- A combination of taxonomies + metadata leads to content that will be more easily “findable” by our users on a future web platform
- Door remains open to the possibilities for future technologies that can take full advantage of structured content



In Conclusion

- DITA has a long history at AMD
- Even working with an old version of DITA the efficiencies from a production perspective are still there
  - While we are still using an early version of DITA, at its core it and the CCMS provided enough for what was needed from a document production standpoint
  - A change in business goals did not affect the need for having efficient technical content
  - We hope to improve upon this with new CCMS and using the latest version of DITA standard
- Need for structured content to serve the needs of our customers is stronger than ever