



IHS Markit™

IHS Markit & CADENAS – The Value of Industry Standard Parts

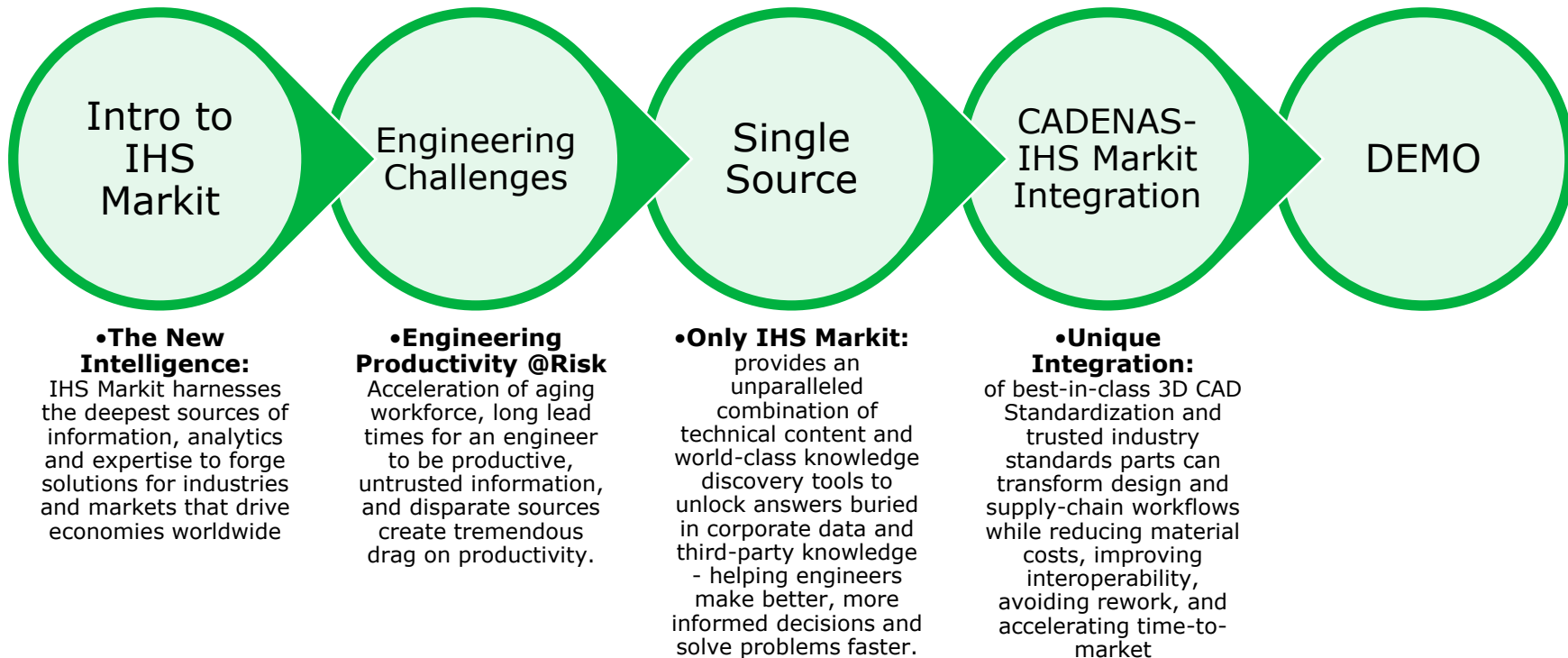
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March 2017

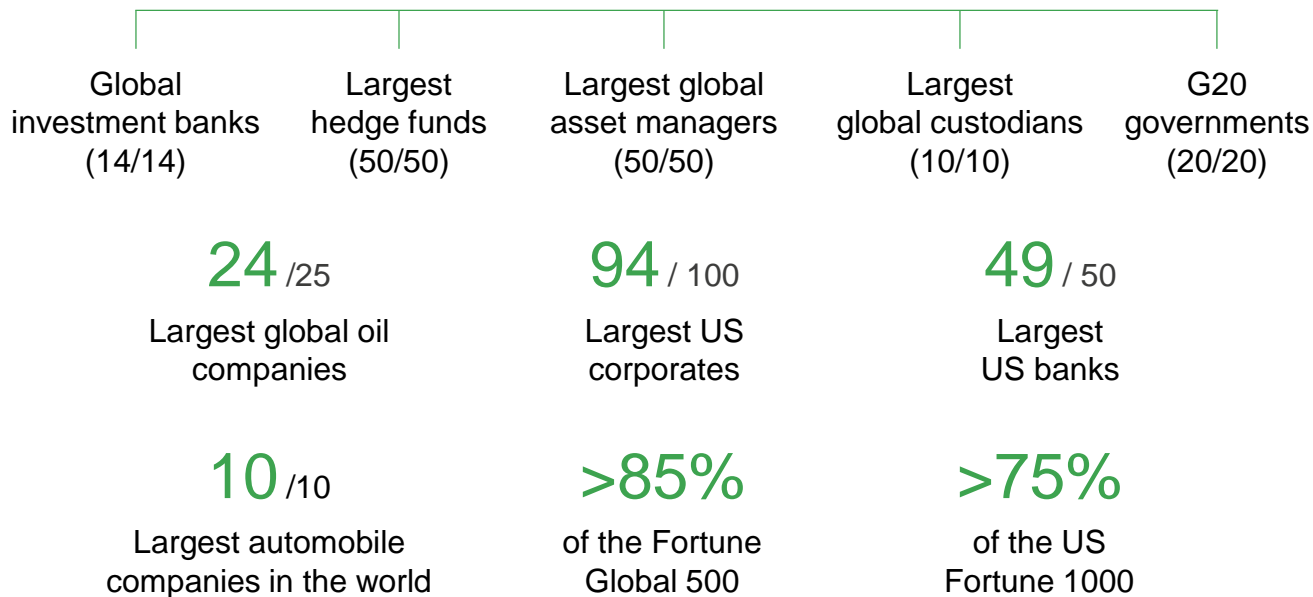


Our Presentation Today





Serving 50,000 customers in 140+ countries including...





Addressing strategic challenges with interconnected capabilities

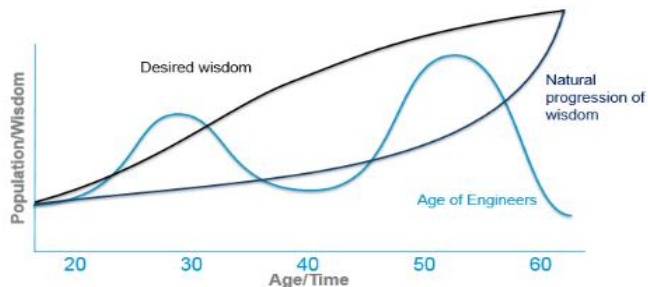
- Resources
- Financial
- Consolidated Markets & Solutions
- Transportation





ENGINEERING & PRODUCT DESIGN

Engineering productivity at risk



Up to

30%



of all expenditure in R&D is wasted on **redeveloping existing inventions.**

SOURCE: European Commission (DG Research) and the European Patent Office

40%



of engineers' time is spent searching for information.

SOURCE: Deloitte

50%

of engineering workforce is eligible for retirement in the next few years.

Source: U.S. Bureau of Labor Statistics

91%

of Millennials (born between 1977-1997) expect to stay in a job for less than three years.

Source: Future Workplace via. Forbes

8.2

years for a new engineer to gain sufficient experience to make non-standard, original technical decisions.

Source: SDC O&G HR Benchmark 2012

Workers can't find the information they need almost half the time.



46%

54%

of decisions are made with incomplete, inconsistent, inadequate information.

SOURCE: Infocentric Research

Enterprise Knowledge Discovery from IHS Markit:

- Delivers 30-70% productivity improvement
- Slashes time spent recreating work already done by 50%
- Accelerates time-to-market by 2.5 to 4 months



Single-source access to trusted external content sources and internal content sources & systems

Industry Standards & Standards Parts

370+

standards organizations worldwide

1.7M+

standards, codes and specifications

40+M

of industry standard part configurations
~10K updated monthly

Technical Reference Information

30+

Leading technical publishers

75M+

Vetted technical publications

10K+

Widely used technical eBooks

1.7M+

patents from the Americas, Europe & APAC

Parts Management

World's largest and most comprehensive electronic components database

500M+

Electronic Components

- Up to 131 technical attributes
- Lifecycle data and predictions
 - Conflict Mineral data
 - RoHS & ReACH

Industry-leading historical content (since 1960)

Military Reference Information

Nato Stock Numbers
ITAR / EAR Data
Export Control Data

200M records

Industry-leading historical content (since 1960)



Bi-directional CADENAS – IHS Markit Integration

Engineering Workbench
Version 1.4

RESEARCH | BROWSE COLLECTIONS | ASME BPVC | PATENT INTELLIGENCE | ROOT CAUSE ANALYSIS | MY WORKSPACES

Research is simplified with our advanced search technology. Try asking a question!

Refine Source Selection
AIA/NAS NAS1351 - SCREW, CAP, SOCKET HEAD, UNDRILLED AND DRILLED, PLAIN AND SE

Advanced Query Tools

Filter result by

Content Classes
Codes & Standards 5 >
Distribution by knowledge bases...

Publication Date
1977 | 2014
In | Between
1977 - 2014

Publisher
AIANAS 2
AR 1
MI 1
SH 1

Document Language

5 Results
Within: Most Recent Revision | Keep all results without revisions data x

Select Multiple Results

- AIA/NAS NAS1351 - SCREW, DRILLED, PLAIN AND SELF-RESISTANT STEEL AND HEAT TREATING**
 Document Status: Active
 Publication Date: 10/31/2014
 Publisher: AIA/NAS
 Data Source: Standards Expert
[Summary](#) | [Save to My Workspaces](#) | [History](#) | [Add to watch list](#)
- AIA/NAS NAS - Index to National Aerospace Standard**
 Document Status: Cancelled
 Publication Date: 7/1/1997
 Publisher: AIA/NAS
 Data Source: Standards Expert
 SCREWS-SOCKET HEAD CAP PLAIN
 SCREWS-SOCKET HEAD CAP (NON-F...

Engineering Workbench Version 1.4
AIA/NAS NAS1351 - SCREW, CAP, SOCKET HEAD, UNDRILLED AND DRILLED, PLAIN...

DOCUMENT | SUMMARY | DOCUMENT HISTORY | RELATED DOCUMENTS

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Part Number: NAS1351-00-2P

Thread Size: .0500-80 UNRF-3A
Material: Alloy Steel
Finish: Cadmium Plated
Length: 0.1250 INCH
Head Undrilled/Drilled: Undrilled Head
Locking Element Type: None

Product Dimensional Data

Part Number	Length Tolerance	Basic Thread Length - Min	Thread Length - Min	Thread Length - Max	Body Diameter - Min	Body Diameter - Max	Head Diameter - Min	Head Diameter - Max
INCH	INCH	INCH	INCH	INCH	INCH	INCH	INCH	INCH
NAS1351-00-2P	+0.000/-0.030	0.500	0.113	0.0600	0.0588	0.0		

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Developments for 2017

- **Expansion of 3D Model portfolio to include:**
 - >ASME
 - >SAE
 - >International Standards (BSI, EN, ISO, IEC)
 - >Integration of company internal standards
 - >Historical Military Specifications
- **Integration of Other Digital Standards Data**
- **Material Data and Properties (MMDH)**

CADENAS-IHS Markit Integration Demonstration

Jürgen Thome; Consultant CADENAS GmbH



IHS Markit™

Questions?

Additional Reference



ENGINEERING & PRODUCT DESIGN

Today's engineers, scientists and technical professionals are under intense pressure to drive growth through innovation.

For more than 50 years, leading engineering organizations have relied on IHS Markit engineering and product design solutions to fuel innovation, drive profitable growth and minimize risk.

Our Engineering Workbench™ platform delivers an unparalleled combination of technical content and world-class knowledge discovery tools to unlock answers buried in corporate data and third-party knowledge - helping engineers make better, more informed decisions and solve problems faster.



Infusing Intelligence into Engineering Workflows

Change & Configuration Management

- Find the most relevant data for ECR validation (internal and external)
- ECRs compliance with existing Codes, Standards and Patents
- Reuse existing solutions for ECR analysis and validation

Service Information Delivery & Field KM

- Data management for Repairs & Overhaul
- Field problems investigation & solving
- Warranty & risk/recall management
- Equipment & systems inventories & replacement

Regulatory Compliance & Sustainability Management

- Material declaration and compliance assessment
- Search and Reuse of existing internal material declarations
- Compliance validation for external regulatory processes
- Safety compliance and risk management

Quality & Reliability Management

- Non-conformance management (data reuse and validation)
- Physical test management (problem-solving analytics)
- Hazard and safety assessment

Concept Development

- Idea generation & screening
- Requirements assessment & validation
- Concept development & marker testing
- Consumer experience testing/validation
- Business/ROI analysis & more

Detailed Development

- Design validation with Codes, Standards and Patents
- Preliminary Design validation for requirements and cost
- New product introduction process assessment
- Existing products modification process assessment

Requirements Definition & Management

- Requirements capture, documentation and reuse
- Concept development & testing
- Consumer experience documentation & testing
- Industry requirements analysis & comparison

Onboarding/Talent Management

- Accelerate onboarding of new engineering talent
- Bridge the knowledge gap between new talent and existing colleagues
- Reduce over-reliance on most experienced engineers



Delivering Real Customer Value

NASA Improves Access to Critical Data Across Locations & Teams

80% of NASA personnel know where information resides, but it was hidden in plain sight across millions of documents.

Using just one search term, IHS Markit Engineering Workbench Knowledge Discovery returned more than 200 contextually-relevant documents – some of these dated back to more than 40 years

Airbus Slashes Research Time

30% reduction in research time at Airbus Space & Defense. IHS Markit Engineering Workbench allowed engineers to better leverage intellectual assets to avoid duplicate effort., improve ability to locate, identify & validate information sources. And the ability to easily access terabytes of internal knowledge.

Mondelēz International Spurs Innovations & Efficiencies

1100 Mondelez scientists using IHS Markit Engineering Workbench in less than 6 month into deployment. In that time, Mondelez indexed over 230 globally distributed knowledge bases in 5 languages. Routine patent searches have been reduced from 2 weeks to just ½ a day.

Boston Scientific Boosts Patent Filings & Productivity

30% improvement in productivity among teams using IHS Markit Engineering Workbench. Users recaptured 70% of their lost time and focus on quality and revenue-generating projects. Within one year, 10-15% of patents filed by the cardiovascular division were generated with the help of Engineering Workbench.

Monroe Energy Improves Operational Efficiency

\$600K in annual savings due to accelerated research and other productivity gains. IHS Markit Engineering Workbench enabled Monroe Energy to help parent company, Delta Airlines, enable strategy to cut fuel costs by \$300MM per year, while also accelerating productivity and strengthening corporate governance.