



The Source
for Critical Information and Insight™

IHS Goldfire

Accelerating Decisions. Powering Innovation.

White Paper

Your company has to fuel pipelines with winning, competitively differentiated products. Your engineering, R&D, and other technical professionals need inspiration and answers to innovate and drive operational improvements in products and production processes. They need to tap into the knowledge that your company has developed through numerous innovation and problem solving investments. But your hard-earned corporate knowledge is walking out of the door every day.

Surprised? Don't be. It happens to the best. In his book, *Lost Knowledge*, David DeLong quotes a NASA manager saying, "If we want to go to the moon again, we'll be starting from scratch because all of that knowledge has disappeared. It would take at least as long and cost at least as much to go back." This is a perfect example of the "Knowledge Gap," or the loss of critical information when employees leave their employer. In the case of NASA, all the key people involved in the original Apollo 11 project had retired and no one thought to write down what they knew. To make matters worse, blueprints for Saturn V, the only rocket powerful enough to travel to the moon, were lost.

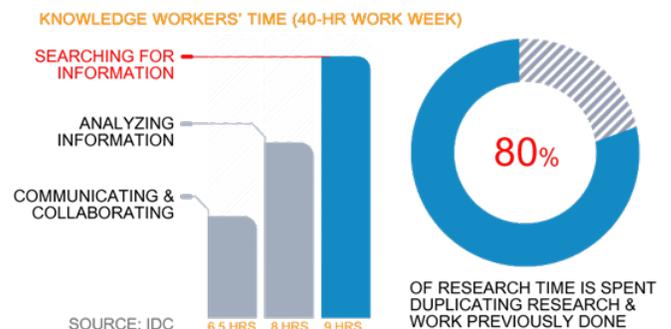
The Knowledge Gap & the Graying Workforce

The same scenario plays out in business every day. Your employees retire as your workforce ages and key individuals move on to new roles. Your new employees can't fill the gap they leave because when employees leave their knowledge leaves with them, or lies buried in files, presentations, shared folders, or other hard to access locations. As a result, up to 2.5% of total revenues are lost due to decreased productivity resulting from learning curve for new hires.

Take the Oil and Gas industry as an example, where the aging workforce - the 'big crew change' - is expected to result in a loss of half of experienced workers to retirement. Considering that it takes over eight years for a new engineer to get up to speed, lost corporate knowledge is a critical problem.

Engineers Need Actionable Intelligence

To make matters worse, your company can't find the information you already have. You need to get the most from your precious technical resources to compete in global markets with a lean organization. But your people don't know where to find the answers and information they need - resulting in waste, rework, reinvention and redundancy.



Your high-value, technical people are inundated with data but don't have the actionable intelligence they need to efficiently innovate and solve problems. Today's large enterprises, on average, process more than 60 terabytes of information a year, about 1,000 times more than a decade ago. And in most organizations the volume of data is expanding by 35-50% every year. The information you need exists, but it's scattered in too many places, platforms, and knowledge bases inside and outside of your business.

IHS Goldfire: Accelerating Decisions. Powering Innovation

Without the ability to find the right information, companies repeat the mistakes of the past and miss innovation opportunities.

You may have tried traditional knowledge management initiatives and enterprise search, but they aren't enough and can't help when people don't know how to ask the right questions. With business becoming more complex and globally dispersed and some of your company's most knowledgeable employees retiring or leaving, it's time to take a different approach.

Problem-Solving & Ideation Too Ad-Hoc

Historical research shows that innovative outcomes most often result from relevant knowledge organized and presented in thought-provoking patterns.

But, whether you are remedying an operational failure or machine malfunction, or strategizing the next generation of products for new markets, the process of effective decision making should begin with a thorough definition and analysis of the current situation or problem-space.

The impact of ad-hoc problem solving, solving the wrong problem, or solving a secondary or symptomatic problem, is easy to understand. The outcome yields only partial or temporary relief, and all too soon the pain recurs – often with increased visibility and urgency. Valuable resources are consumed as the task is reworked, hopefully to a final resolution. In the interim, the organization suffers cost-overruns, time-to-market delays, and lost opportunities or customer loyalty.

The Decision Engine: Delivering Actionable Intelligence, Preserving Knowledge and Accelerating Problem-Solving

New technologies help engineers and other professionals make better, more informed decisions. These technologies also allow them to make decisions faster, improving efficiency and accelerating time to market. Leading manufacturers are leveraging question-answering, semantic search technology to help more rapidly pinpoint solutions buried in the noise of internal and external information. Perhaps even more importantly, the technology can surface answers to questions that engineers might not have even thought to ask.

The decision engine approach allows your technical resources to find answers from across industries and domains of science, stimulating ideas and providing insights that lead to breakthrough innovation.

Semantic search helps cut through the information glut by searching on the precise, relevant meaning of a query and searching in semantically intelligent information captured from content. The question-answering with semantic search helps organizations preserve, leverage and reuse knowledge, delivered in context with links to access source information.

For those that need more problem solving capability, IHS Goldfire also offers a vehicle for ideation and creative problem solving, bringing focus and clarity to problem definition and analysis, stimulating idea generation and helping evaluate, validate and prioritize solutions.

IHS Goldfire guides users through a best-practice sequence of tasks to improve an existing system, analyze a new device or process, or address product defects. The platform includes proven innovation and engineering tools and methodologies that support problem understanding, definition and analysis: TRIZ, (Theory of Inventive Problem-Solving), Value Engineering, Root Cause Analysis, and Failure Modes and Effects Analysis (FMEA).

Boston Scientific engineers who use IHS Goldfire spend only 10% of their time researching intelligence, compared to 20-30% for non-Goldfire users.

**Boston
Scientific**

IHS Goldfire - The Decision Engine

IHS Goldfire delivers the answers and information you need from the authorities you trust. The IHS Goldfire platform is a decision engine powered by world-class semantic search technology with integrated innovation tools and methods that sit on mountains of internal and external data. The decision engine allows you to distill that data down to the actionable intelligence you need in order to make better decisions, faster. It is a single point of access and discovery that helps make previously underutilized knowledge more valuable by opening up rapid, targeted access across languages, formats, and locations.

The IHS Goldfire decision engine offers more than just semantic search. IHS Goldfire is tuned to the needs of product developers, R&D, engineers, and others by providing unique "concept lenses" that organize results to provide powerful insights. For example, you can view definitions, advantages, disadvantages, applications, materials, causes and effects, parts, functions, interactions, and more related to a topic.

And, IHS Goldfire integrates proven problem solving methodologies to accelerate ideation and inventive problem solving.

Accelerating Decisions, Powering Innovation

Simply put, IHS Goldfire connects technical professionals with the answers they need to make informed decisions. It helps them make better decisions by allowing them to rapidly access relevant information, while also decreasing the time to find information and make decisions, improving time to market or time to resolve a problem.

IHS Goldfire enables engineers, researchers and other technical professionals to:

- Leverage proven solutions, best practices and lessons learned so they can reuse knowledge and stop 'reinventing the wheel'
- Identify new markets and envision next-generation solutions
- Gain insight into competitive landscapes, trends, and analytics
- Accelerate problem solving, idea generation, and new product development
- Improve operational efficiencies, product and process quality

The IHS Goldfire Platform

Architecturally, IHS Goldfire provides a platform for connecting people to the content and expertise needed to accelerate decision making and fuel innovation.



IHS Goldfire: Accelerating Decisions. Powering Innovation

There is proven business value available from using IHS Goldfire. Many people in your organization can benefit from leveraging the decision engine. It might be R&D looking for conceptual ideas to spark innovation or an engineer looking for potential solutions to a specific issue. It can also be invaluable to Purchasing, Legal, Marketing, and others who can benefit faster knowledge discovery and problem solving.

But where do you start? Which initiatives do you apply IHS Goldfire to? Which users? Here are some ideas from our experience with existing IHS Goldfire customers:

		R&D	Design Eng.	Product Mgr.	Support	Manufacturing	IT	Strategy
Speed to Market	Faster innovation	X	X	X			X	X
	Knowledge capture	X	X	X		X	X	
	Knowledge reuse	X	X	X		X		X
	Identify IP issues	X	X	X				X
Drive Market Share	Improve competitive intelligence	X	X	X				X
	Improve customer satisfaction		X	X	X		X	
	Improve protection/leverage of IP	X	X	X				X
Improve Operational Efficiency	Reduce defects		X	X	X	X	X	
	Reduce liability		X	X	X	X		X
	Reduce manufacturing costs	X	X	X		X	X	
	Faster root cause analysis	X	X	X		X	X	
	Reduce research time	X	X	X			X	X
Address Aging Workforce	Faster ramp-up of new hires	X	X	X		X	X	
	Learn lessons from past	X	X	X				X
	Identify solutions from past projects	X	X	X				X
Better Manage Risk	Understand risks	X	X	X		X	X	X
	Manage/anticipate risks	X	X					X
	Reduce liability		X	X				X
	Understand compliance issues		X	X				

“ We need to move fast to seize new growth opportunities ... Without Goldfire there would have been a high risk of reinvention or investment to later discover we were infringing on someone else’s patent. Goldfire turbocharged our engineering efforts, which made a difference in seizing this market opportunity. ”

HUGH BLAXILL, Chief Engineer

MAHLE

Powertrain

Companies that use the IHS Goldfire Decision Engine report significant benefits including:

- Top line innovation
- Leveraging internal knowledge to avoid rework and reinvention
- Stemming knowledge loss due to an aging workforce or attrition
- Improving operational efficiencies
- Minimizing risk



The value of these breakthroughs is immense. It's almost hard to grasp the potential financial value. But IHS Goldfire customers have shown that developing an ROI can be made simple by focusing on the speed and efficiency of finding information and making decisions. It's easy to do when you consider that 25 to 40 percent of an engineer's time is spent searching for knowledge - and that up to 30 percent of R&D spend is wasted duplicating work and research that has already been done.

But even larger value is available, because not only are current methods of finding information inefficient they are also ineffective at providing the actionable intelligence needed to answer the right question.

Imagine the potential top-line and bottom-line impact your company could achieve.



IHS Goldfire Knowledge

IHS not only provides the decision engine platform, but also a vast array of critical technical and industry content that's already assembled and indexed, ready to use.

For example IHS Goldfire can access millions of up-to-date standards, documents from over 370 standard developing organizations (SDOs). IHS also offers a tremendous amount of information available today, iHS Electronics & Media, IHS ESDU, IHS Chemical, IHS GlobalSpec, and premium third party SDO content. IHS Goldfire Knowledge also includes information from scientific libraries and the "deep web" – information that is available but very difficult to effectively access. IHS adds new information sources all of the time. *For a complete list of knowledge sources, please see the IHS Goldfire webpage: <http://www.ihs.com/products/design/software-methods/goldfire.aspx>*

Information sources also include external sources such as global patent databases, the Worldwide web, social media, RSS feeds and websites of suppliers and competitors. You can also use IHS Goldfire to index internal information, unlocking the most underutilized asset in your company – your corporate knowledge. You can extend the value of internal knowledge currently locked away inside PLM, PDM, ERP, or data management systems (DMS) repositories, shared drives, libraries, portals, directories, personal folders, and even email.

The IHS Goldfire Knowledge

IHS Goldfire provides engineers and other technical professionals with access to a wide array of engineering rich internal and external content.

EXTERNAL CONTENT

Search 90 million documents

IHS CONTENT

IHS Standards Expert	IHS EHS&S*
IHS ESDU	IHS Chemical
IHS EIATrack	IHS Energy*
IHS Jane's*	IHS Global Insight*
IHS Electronics & Media	IHS GlobalSpec
IHS Automotive*	... and more

PARTNER CONTENT



* Content planned in future releases.

CORPORATE CONTENT

Search your institutional knowledge



IHS Goldfire Offerings

IHS offers different Goldfire solutions to bring the appropriate content and tools you need to solve your critical information challenges. Choose the IHS Goldfire offering that is right for your business.

	IHS Standards Expert with Goldfire	IHS Goldfire Cloud	IHS Goldfire Connect	IHS Goldfire Innovator
	Pure Web	Hosted, Pure Web	Thick & Thin Client	Thick & Thin Client
Industry Intelligence Semantic access to patents, standards, trusted third-party content, and premium IHS content	☑	☑	☑	☑
Web Content & 'Market Pulse' Insights Semantic access to industry, competitor and supplier Websites, Social Media, and RSS feeds		☑	☑	☑
Competitive & Technology Insights Tools to analyze market, technology and competitive trends			☑	☑
Enterprise Knowledge Institutional knowledge in corporate libraries & directors, shared files, enterprise systems (PLM, PDM, ERP), document management systems, intranets, and more			☑	☑
Accelerated Innovation Advanced problem-solving tools and methods such as TRIZ, value engineering, FMEA, root cause analysis to mitigate risk, stimulate ideation and speed problem resolution				☑

IHS Goldfire Cloud is a web-based platform that delivers semantic access to the world's largest aggregated, pre-indexed collection of technical knowledge including standards, specs, design methods, articles, patents, publications and more from hundreds of trusted, world-renowned content providers. Completely hosted, this solution is easily accessed via web browser.

IHS Goldfire Connect integrates world-class semantic technology and broad access to internal and external knowledge with collaboration capabilities to knowledge-enable decision-making - empowering companies to deliver market leading, competitively differentiated products in less time and at less cost. IHS Goldfire Connect uniquely supports an organization's daily research and collaboration activities by connecting product teams to the wealth of information that lies inside and outside their organization, on-demand.

IHS Goldfire Innovator integrates state-of-the-art knowledge retrieval, collaboration, ideation and proven problem solving tools and methods with broad access to rich technical content, enabling engineers and other technical personnel to speed problem solving and arrive at optimal decisions.

IHS Standards Expert with Goldfire utilizes world-class semantic search technology to deliver you solutions, approaches, and proven methodologies to your most pressing technical challenges from a wealth of additional technical information from IHS and select third-party content providers. In addition to engineering standards, users can see search results across handbooks, manuals and other high-value engineering reference content; procedures and best practices; and, validated methods to achieve optimal design and performance.

IHS Goldfire Expertise.

Looking for unparalleled innovation, research and systems deployment expertise? IHS Goldfire's Professional Services offer the know-how to help you to deliver success. Whether you need to develop breakthrough new technologies, better understand the competitive landscape, mitigate supply chain risk, or simply stay abreast of market and technology changes, IHS Goldfire Professional Services can help you with your unique business and technology challenges. We have helped hundreds of companies - across the globe and across industries - accelerate decisions, positioning them for innovation success.

- More than 70 years of combined consulting experience; partnering with clients on product design, research, integration, and implementing IHS Goldfire
- Over 600 IHS Goldfire implementations
- Specializations across multiple domains; Engineering, Materials Science, Systems Deployments, IHS Goldfire, Change Management

How IHS Goldfire can Accelerate Research and Power Innovation for You.

Learn how IHS Goldfire can help you improve internal knowledge capture and reuse, increase the rate of innovation, improve operational excellence, and better leverage the knowledge of an aging workforce. Take advantage of the opportunity to achieve faster time to market, greater innovation, better product and process quality, and improved regulatory compliance – all driving higher revenues with higher efficiency to keep cost in line and free up resources to innovate.



The Source

for Critical Information and Insight™

ACCELERATE DECISIONS. POWER INNOVATION. WITH IHS GOLDFIRE

Contact your IHS Representative to:

SEE IHS GOLDFIRE IN ACTION

SCHEDULE A DISCOVERY SESSION TO IDENTIFY HOW
IHS GOLDFIRE CAN HELP YOUR ORGANIZATION.

For more information about IHS

www.ihs.com

Americas / United States
Tel: +1 832 463 3000
Fax: +1 832 463 3100

Middle East / Dubai
Tel: +971 4 3117118
Fax: +971 4 3326136

Europe / Scotland
Tel: +44 1224 597800
Fax: +44 1224 580320

Asia-Pacific / Singapore
Tel: +65 6890 1616
Fax: +65 6890 1624