



INSIDE KWINTELY

# What is Diagonal Technology Transfer?

October 5, 2025 · **Dr. Hardy Köke** · 9 min read**TL;DR**

Diagonal technology transfer refers to the movement of technical knowledge, innovations, and intellectual property across different industries, sectors, or application domains rather than within traditional vertical channels.

Diagonal technology transfer refers to the movement of technical knowledge, innovations, and intellectual property across different industries, sectors, or application domains rather than within traditional vertical channels.

## Understanding Diagonal Technology Transfer

Diagonal technology transfer represents a unique approach to moving innovations between different fields and industries. Unlike traditional technology transfer that happens within the same sector, diagonal transfer involves taking a technology from one industry and applying it to solve problems in completely different areas. This cross-sector movement creates new opportunities for innovation and helps companies find unexpected solutions to complex challenges. (<https://www.wipo.int/en/web/technology-transfer>)

This type of transfer is becoming increasingly important in today's connected world. Companies are realizing that breakthrough innovations often come from combining technologies from different fields. For example, medical imaging technology developed for hospitals might find new applications in manufacturing quality control, or aerospace materials might be used in automotive applications. The diagonal approach breaks down traditional industry barriers and creates fresh possibilities for growth. (<https://www.eura-ag.com/en/blog/why-you-should-use-cross-sector-technology-transfer>)

## The Importance of Diagonal Technology Transfer

The importance of diagonal technology transfer lies in its ability to accelerate innovation and create competitive advantages. When technologies cross industry boundaries, they often solve problems that have been difficult to address using traditional methods. This type of transfer helps companies access a much larger pool of existing solutions rather than developing everything from scratch. It reduces research and development costs while speeding up the innovation process. (<https://aslgate.com/the-importance-of-intellectual-property-rights-in-technology-transfer/>)

Diagonal technology transfer also helps organizations build stronger intellectual property portfolios. By applying existing patents and technologies in new ways, companies can create valuable new applications while respecting existing intellectual property rights. This approach is particularly valuable in competitive markets where freedom to operate is crucial. Companies can use diagonal transfer to find white spaces in patent landscapes and develop innovative solutions that avoid infringement issues. (<https://www.tls-ip.com/freedom-to-operate-fto-analysis>)

## How Diagonal Technology Transfer Works

Diagonal technology transfer operates through a systematic process of identifying, evaluating, and adapting technologies from one domain for use in another. The process begins with technology intelligence and competitive monitoring to discover relevant innovations across different industries. Companies use patent databases, scientific literature, and market research to find technologies that might solve their specific problems. This scanning process requires looking beyond traditional industry boundaries to spot unexpected connections. ([https://en.wikipedia.org/wiki/Technology\\_intelligence](https://en.wikipedia.org/wiki/Technology_intelligence))

The transfer process involves careful analysis of both the source technology and the target application. Technology intelligence plays a crucial role in understanding how innovations from different fields can be adapted and applied. Companies must evaluate technical feasibility, market potential, and intellectual property considerations before moving forward with diagonal transfers. This evaluation includes freedom to operate analysis to ensure that using the technology in a new domain doesn't create legal problems. (<https://www.bakerbotts.com/thought-leadership/publications/2023/march/freedom-to-operate-analysis-three-strategies-to-efficiently-achieve-robust-results>)

## Key Components of Diagonal Technology Transfer

### Technology Intelligence and Monitoring

Technology intelligence serves as the foundation for successful diagonal technology transfer. This involves systematic monitoring of patent filings, scientific publications, and competitive activities across multiple industries. Companies use specialized tools ([https://agenticflow.kwintely.com/?utm\\_source=kwintely-website&utm\\_medium=article&utm\\_campaign=article-legacy-flow&utm\\_content=what-is-diagonal-technology-transfer](https://agenticflow.kwintely.com/?utm_source=kwintely-website&utm_medium=article&utm_campaign=article-legacy-flow&utm_content=what-is-diagonal-technology-transfer)) and databases to track emerging technologies and identify potential transfer opportunities. The intelligence gathering process must be broad enough to capture innovations from unexpected sources while being focused enough to find relevant applications. (<https://xlscout.ai/how-to-track-competitors-and-their-patent-filings-using-patent-monitoring/>)

Effective technology intelligence requires both automated systems and human expertise. Advanced analytics tools can scan large volumes of patent and scientific data to identify patterns and connections. However, human experts are needed to evaluate the potential for diagonal applications and understand the technical challenges involved in adapting

technologies across domains. This combination of automated scanning and expert analysis creates a comprehensive intelligence system that can spot valuable transfer opportunities.

(<https://ip.com/use-cases/competitive-intelligence/>)

## Patent Analysis and Intellectual Property Management

Patent analysis is essential for diagonal technology transfer success. Companies must understand the intellectual property landscape in both source and target domains to avoid infringement and identify licensing opportunities. This involves detailed freedom to operate studies that examine existing patents and their potential impact on new applications. Patent mapping helps visualize the competitive landscape and identify areas where diagonal transfer might create new opportunities.

(<https://ttconsultants.com/introduction-to-5-common-pitfalls-in-freedom-to-operate-analyses/>)

Intellectual property management becomes more complex in diagonal transfers because companies must navigate patents from multiple industries. This requires sophisticated analysis tools and legal expertise to understand how patents might apply across different domains. Companies also need to consider whether their diagonal applications might create new patentable inventions, adding to their own intellectual property portfolios.

(<https://uni-tuebingen.de/en/research/innovation/technology-transfer-office/property-rights/ipr-policy/>)

## Scientific Literature Integration

Scientific literature provides valuable insights for diagonal technology transfer by revealing the fundamental principles behind innovations. Research papers often describe underlying mechanisms and potential applications that might not be obvious from patent documents alone. By analyzing scientific publications across different fields, companies can identify technologies with broad application potential and understand how to adapt them for new uses.

(<https://pmc.ncbi.nlm.nih.gov/articles/PMC11751822/>)

The integration of scientific literature into technology transfer processes helps bridge the gap between basic research and practical applications. Academic research often explores theoretical possibilities that industry hasn't yet pursued, creating opportunities for diagonal transfer. Companies that systematically monitor scientific literature can identify emerging technologies before they become widely adopted, giving them first-mover advantages in new applications.

([https://brill.com/view/journals/thj/11/1/article-p4\\_2.pdf](https://brill.com/view/journals/thj/11/1/article-p4_2.pdf))

## Challenges in Diagonal Technology Transfer

Diagonal technology transfer faces several significant challenges that can complicate the process. One major difficulty is the technical adaptation required to move technologies between different domains. Technologies developed for one industry often need substantial modification to work effectively in another field. This adaptation process can be time-consuming and expensive, requiring specialized expertise in both the source and target domains. Companies must carefully evaluate whether the benefits of diagonal transfer justify the costs of adaptation.

(<https://www.koerber-pharma.com/blog/how-data-management-and-analytics-ensure-a-successful-tech-transfer>)

Another challenge involves intellectual property complexities. When technologies cross industry boundaries, the patent landscape becomes more difficult to navigate. Companies must understand how existing patents might apply in new contexts and whether their diagonal applications might infringe on existing rights. This requires comprehensive freedom to operate analysis across multiple technology domains. The confidentiality requirements for protecting sensitive information during evaluation and negotiation processes also become more complex when dealing with cross-industry transfers. (<https://www.slideshare.net/slideshow/technology-transfer-documents-confidentiality-agreements-licensing-mouspdf/253016483>)

## Strategies for Diagonal Technology Transfer

Successful diagonal technology transfer requires strategic approaches that address the unique challenges of cross-industry innovation. Companies should develop systematic technology scouting processes that look beyond their traditional industry boundaries. This involves creating cross-functional teams with expertise in multiple domains and establishing relationships with research institutions and technology providers from diverse fields. Regular technology intelligence activities help identify emerging opportunities and competitive threats across different industries. (<https://www.ovtt.org/en/guidelines/technology-intelligence-guide/>)

Collaborative partnerships play a crucial role in diagonal transfer success. Companies can work with universities, research institutes, and other organizations to access technologies and expertise from different domains. These partnerships help share the risks and costs of technology adaptation while providing access to specialized knowledge. Joint development projects and licensing agreements create structured ways to explore diagonal transfer opportunities while protecting intellectual property rights. ([https://www.wipo.int/en/web/patents/topics/technology\\_transfer](https://www.wipo.int/en/web/patents/topics/technology_transfer))

## Implementing Diagonal Technology Transfer

### Systematic Technology Scouting and Intelligence

Implementation of diagonal technology transfer begins with establishing robust technology scouting systems. Companies need to create processes for monitoring innovations across multiple industries and identifying potential transfer opportunities. This involves using specialized databases, patent monitoring tools ([https://agenticflow.kwintely.com/?utm\\_source=kwintely-website&utm\\_medium=article&utm\\_campaign=article-legacy-flow&utm\\_content=what-is-diagonal-technology-transfer](https://agenticflow.kwintely.com/?utm_source=kwintely-website&utm_medium=article&utm_campaign=article-legacy-flow&utm_content=what-is-diagonal-technology-transfer)), and competitive intelligence systems to track developments in diverse technology areas. The scouting process should be systematic and ongoing, with regular reviews to identify new opportunities and assess changing market conditions. ([https://en.wikipedia.org/wiki/Technology\\_intelligence](https://en.wikipedia.org/wiki/Technology_intelligence))

Technology scouting for diagonal transfer requires broader perspectives than traditional industry-focused monitoring. Companies must train their teams to think beyond conventional applications and recognize potential connections between seemingly

unrelated technologies. This often involves interdisciplinary collaboration and external partnerships with organizations that have expertise in different domains. Regular technology workshops and brainstorming sessions can help generate ideas for diagonal applications. (<https://valonaintelligence.com/resources/blog/exploring-different-types-of-competitive-intelligence>)

## **Partnership Development and Collaboration Networks**

Building effective partnerships is essential for diagonal technology transfer implementation. Companies should develop relationships with universities, research institutions, and organizations from different industries to access diverse technology pools. These partnerships provide opportunities to explore potential applications and share the risks of technology adaptation. Collaboration networks help companies access expertise and resources they might not have internally. (<https://uni-freiburg.de/en/transfer/technology-transfer/>)

Partnership development for diagonal transfer requires careful consideration of intellectual property arrangements and confidentiality agreements. Companies must establish clear agreements about technology ownership, licensing terms, and confidentiality protection before beginning collaborative projects. These agreements become more complex when dealing with technologies that span multiple industries and may have applications neither party initially considered. Professional legal support is often necessary to navigate these complexities. (<https://research.rice.edu/ott/establishing-confidentiality>)

## **Technology Evaluation and Adaptation Processes**

Implementing diagonal technology transfer requires structured processes for evaluating and adapting technologies for new applications. This involves technical assessment to determine feasibility, market analysis to understand commercial potential, and intellectual property evaluation to ensure freedom to operate. The evaluation process must consider the costs and risks of technology adaptation as well as the potential benefits of successful implementation. (<https://www.bakerbotts.com/thought-leadership/publications/2023/march/freedom-to-operate-analysis-three-strategies-to-efficiently-achieve-robust-results>)

Technology adaptation processes should include pilot projects and proof-of-concept studies to test diagonal applications before making major investments. These preliminary studies help identify technical challenges and market opportunities while minimizing risks. Companies should also develop internal capabilities for technology adaptation or establish partnerships with organizations that have relevant expertise. Regular review and adjustment of adaptation strategies helps ensure successful implementation of diagonal technology transfer initiatives. (<https://www.bioprocessintl.com/contract-services/unraveling-the-complexities-of-technology-transfer>)

## **Conclusion**

Diagonal technology transfer represents a powerful approach to innovation that breaks traditional industry boundaries and creates new opportunities for technological advancement. By moving innovations across different sectors and application domains,

companies can access broader pools of existing solutions and accelerate their development processes. This cross-sector approach to technology transfer offers significant advantages in today's competitive marketplace where traditional industry lines are becoming increasingly blurred.

The success of diagonal technology transfer depends on systematic approaches to technology intelligence, patent analysis, and partnership development. Companies that invest in robust monitoring systems and collaborative networks are better positioned to identify and capitalize on diagonal transfer opportunities. While the challenges are significant, including technical adaptation requirements and complex intellectual property considerations, the potential rewards make diagonal technology transfer an increasingly important strategy for innovation-driven organizations. As industries continue to converge and new applications emerge, diagonal technology transfer will play an even more critical role in driving technological progress and competitive advantage. (<https://www.errequadro.ai/en/competitive-intelligence-analysis/>)