



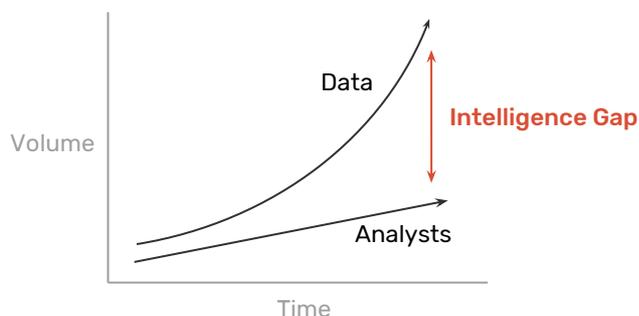
The Economics of Machine-Augmented Innovation Intelligence

A White Paper by Mergeflow | March 2018



The Intelligence Gap

Speed, volume, and diversity of available data grow exponentially while the number of analysts available for analyzing these data only grows linearly, if at all. This results in an intelligence gap.



The intelligence gap clearly shows runaway dynamics. Trying to find, hire, or educate more analysts is not going to help.

Closing the Gap

In order to close the ever-widening intelligence gap, we need a new, machine-augmented, approach to innovation intelligence. Some requirements for this new approach:

Agile and Continuous

We need 24/7 automated data collection, self-learning technologies, and interactive visualizations. This lets us focus on data interpretation, rather than data collection and preparation.

360° View

We need to be able to explore and cross-correlate signals from R&D to business to finance, across industries and technologies.

Transparent and Unbiased

In order to support fact-based decision making, we need full access to all underlying data. No finder's fees or other intermediary business models.

Machine-Augmented Intelligence

Mergeflow's innovation analytics platform combines self-learning technologies with advanced computing power. Global technology leaders in and across diverse industries use Mergeflow to discover products, markets, research, patents, start-ups, and experts associated with emerging, innovative technologies.

The combination of human curiosity and creativity with the scalability of self-learning technologies is much more powerful than either human or computer alone. This is why at Mergeflow we build software to augment, not replace, human work. We call this *Machine-Augmented Intelligence*.

Top Benefits

More High-Value Activities - Algorithms do data collection and preparation, so that you can focus on data interpretation.

Speed - 20 - 75x speedup of innovation intelligence analyses.

Your Benefits

Mergeflow automates data collection and preparation, so that you can focus on data interpretation.

Continuous Data Capture Across Sources

Mergeflow uses custom-built web crawlers, APIs, and other technologies to continuously collect and aggregate tech and innovation data.

Economic Benefits

- Software, not you, takes care of data collection, cleansing, and harmonization.
- You have all data available through one platform, rather than one platform for each type of data.

Identify People And Organizations

Mergeflow extracts names of people, organizations, objects and events from document contents. Then Mergeflow creates interactive visualizations that show how actors relate to each other.

Economic Benefits

- Quickly discover who the relevant actors are in a certain technology or industry.
- Identify people or organizations that are relevant but that you didn't know might exist, e.g. new startups.

Explore Financial Data

From the contents of world wide news, Mergeflow extracts venture funding events, market estimates, and research funding data.

Economic Benefits

- Rather than wading through loads of documents, benefit from automatically generated charts.
- Look at technologies and innovations through the lens of investments, a powerful indicator of interest.

Quantifying Mergeflow's Economic Benefits

Mergeflow can reduce innovation intelligence efforts by a factor of 10, and in some scenarios much more than that. Below are two examples; analyzing technology licensing offers, and obtaining market estimates for a technology or other topic.

Technology Licensing Offers: 75x Turnaround Time Reduction

The Challenge

Technology licensing offers (TLOs) are new technologies for commercialization that were developed at universities or other R&D organizations. Such technological opportunities can help companies develop products or solutions faster or better. While TLOs are publicly available, searching them manually is extremely time-consuming:

Distributed Data: Since many R&D organizations maintain their own TLO database, TLOs are distributed across hundreds of different databases. These databases are not standardized, so results have to be aggregated manually.

Not Agile: Imagine you want to search all ca. 450 TLO databases available in Mergeflow manually. Now imagine that your search in the 393rd database makes you revise what you look for. You would then have to go back through all the previous 392 databases, and search them again.

Not Continuous: A manual search is a snapshot in time, rather than a continuous process. It cannot consider TLOs that become available after completion of the search.

Mergeflow's Solution

Automated Data Collection and Preparation: Mergeflow automatically collects, aggregates, and analyzes data from across TLO databases.

Agile: Rather than searching separate databases, Mergeflow lets you run one search across all databases.

Continuous Monitoring: Mergeflow enables continuous monitoring through user-specific alerts.

Economic Benefit

Manual vs. Mergeflow: Manual search requires you to search hundreds of databases, and then aggregate all the results. By contrast, when you use Mergeflow, software does all this for you.

The Result: One of our customers in the manufacturing vertical was able to reduce turnaround times for research requests from an average of one week to 30 minutes. Assuming a 37-hours work week, this is a **75x difference**.

Market Estimates: 20x Analysis Speedup

The Challenge

Market estimates or forecasts, i.e. estimated size and growth rates of certain market segments, are available from across many sources on the web. But obtaining market estimates relevant to a certain technology is challenging:

Unstructured Data: Market estimates are contained in text documents and have to be extracted, which is labor intensive.

No Standard Format: For example, some estimates report two market sizes at different points in time, others report one market size and a CAGR. In order to be able to compare such estimates, they first have to be normalized.

Variation: Different estimates for the same market may vary, sometimes considerably.

Mergeflow's Solution

Structured Data Extraction: Mergeflow's algorithms automatically extract market segments, sizes, and CAGRs from text contents.

Aggregate & Visualize: Mergeflow normalizes market estimates from across various sources, and displays them in interactive charts and tables.

Relate Technologies With Markets: Mergeflow also ingests and analyzes the context from which a market estimate was extracted. When you search in Mergeflow, this context is considered. This lets you bridge from technologies to markets.

Economic Benefit

Manual vs. Mergeflow: Manual search means you have to first find market reports on the web, and then somehow aggregate the data across different time scales, growth rates, etc.. With Mergeflow, you just do one query, and get a normalized size and CAGR chart and the market segment names as a result.

The Result: One of our customers in the chemicals vertical managed to reduce analysis efforts from just under seven hours to 20 minutes. This is a **20x difference**.

Decision-Enabling Data

From across diverse sources, Mergeflow continuously collects and analyzes technology and innovation data. These data are being fed through Mergeflow's proprietary natural language and machine learning algorithms.

Scientific Publications

Research papers, conference proceedings, and preprints from across different disciplines.

Ca. 30,000 new documents / week.

Patents

Patent publications from worldwide patent offices.

Ca. 12,500 new documents / week.

Industry News

Business news from across various industries.

Ca. 15,000 new documents / week.

Financial and Investor News

Market estimates and other technology-relevant news.

Ca. 12,000 new documents / week.

Technology Blogs and News

Thoughts, ideas, and forecasts from the most respected tech journalists around the world.

Ca. 10,000 new documents / week.

Venturing Events

Updates on VC funding events from around the world.

Ca. 1,500 new documents / week.

Technology Licensing

Technologies available for licensing from universities and R&D organizations worldwide.

Ca. 250 new documents / week.

Funded Research Projects

Updates on US, UK, and EU publicly funded research projects.

Ca. 400 new documents / week.

Custom Data Repositories

Optionally, Mergeflow can analyze data provided by customers (e.g. submissions to idea contests, specific web-available sources).

What Our Customers Say About Mergeflow

“ Covestro (formerly Bayer MaterialScience) is a world-leading supplier of high-tech polymer materials. We have been using Mergeflow since 2012 with lasting success. The software helps us identify and monitor important technological, scientific, and market information, in a highly automated way. Using Mergeflow ensures that we do not miss information that is important to our business.”

Dr. Gerhard Langstein

Head of New Technologies and Science Fellow
Covestro | www.covestro.com

“ The world provides more space and opportunities for innovators than our company does, and it is almost impossible to keep track of it. Mergeflow's solution provides you a chance and helps effectively to discover the needle in the haystack.”

Evgeni Rehfuss

Head of New Products & Markets, Corporate Innovation
BSH | www.bsh-group.com

“ Mergeflow helps us identify many ‘application leads’ — that is, evidence that a specific company is either using or providing technologies like ours. Discovering these leads is the most difficult part of our market research, given the sea of information online. Once we have a lead, the rest of our research is more straightforward.”

Chris McCormick

Algorithms and Applications
Nearist | www.nearist.io

About Mergeflow

Mergeflow builds and operates innovation intelligence solutions that combine self-learning technologies with advanced computing power to provide unique insights. We help individuals and teams that operate at the intersection of business and R&D.

Mergeflow customers operate in and across diverse industry sectors, and include global technology leaders such as Bayer, BASF, Beiersdorf, BMW, Covestro, Philips, Siemens, thyssenkrupp, and others.



Mergeflow AG | Effnerstr. 39a | 81925 Muenchen |
Germany

info@mergeflow.com
