Semantic Arts' 25 Year History

Semantic Arts Enters Its' 25th Year

According to the U.S. Bureau of Labor Statistics, 15,336 companies were founded in Colorado in the year 2000. By 2024, only 2,101 of those companies remained. While we can speculate endlessly about why just ~14% survived recessions, pandemics, and international conflicts, the impression is clear.

The organizations that endured… and ideally thrived deserve recognition for their adaptability and resourcefulness. Seeing how we are entering our 25th anniversary, this statistic is a big deal. Most companies do not make it that long.

70% of companies fail in their first 10 years.

Even the venerable S&P 500 companies have an average lifespan of 21 years.

Resilience is in Our DNA

So here we are at 25, just getting warmed up.

To make things even more interesting, it is cool to be 25 years in an industry that many people think is only a few years old. Many people have only recently stumbled into semantics based on open standards, knowledge graphs, and data-centric thinking, and are surprised to find a company that has been specializing in this since before Facebook was founded.

It hasn't always been easy or a smooth ride, but we like to think longevity is in our DNA.

Keep reading for a look at three of the most important lessons we've learned, a brief tour of our biggest achievements over the past 25 years, a glimpse of where we're windsurfing to next, and as a bonus for reading through the entirety of our history, we'll give you an inside scoop on Dave McComb's origin story leading up to the founding of Semantic Arts.

3 Lessons Learned Surviving 25 Years

You learn a few things after surviving and eventually thriving for 25 years.

After you learn them and then state them, they often sound obvious and trivial. The reality is that we had to learn them to get to where we are today. We hope it serves you as much as it has served us.

LESSON 1:

Becoming data-centric is more of a program than a project. It is more of a journey and process than a destination or product.

We've observed a consistent pattern among our clients: once they discover the data-centric approach, they want it immediately. But meaningful transformation requires rethinking deeply held beliefs and shedding long-standing stigmas. This paradigm shift challenges cultural norms, restructures how information assets are organized, and redefines how knowledge is shared (in more meaningful and context-rich ways).

We've also seen what happens when organizations resist the data-centric shift. Despite initial interest, they cling to legacy mindsets, siloed systems, and entrenched hierarchies. The transformation stalls because cultural resistance outweighs technical readiness. Information remains fragmented, knowledge-sharing stays shallow, and AI initiatives struggle to produce meaningful results, often reinforcing the very inefficiencies the organization hoped to overcome.

LESSON 2:

Successful data-centric transformations require you to simultaneously look at the big picture and the fine-grain details.

Through decades of execution (and refinement of that execution), we employ a "think big" (Enterprise) / "start small" (Business Domain) approach to implementing data-centric architecture. We advocate doing both the high-level and low-level models in tandem to ensure extendable and sustained success.

If you only start small (which every agile project advises), you end up recreating the very point solutions and silos you're working to integrate. And only thinking big tends to build enterprise data models that do not get implemented (we know, because that's where we started).

Doing both simultaneously affords two things that clients appreciate.

1. It demonstrates a solution to a choice problem set, by leveraging real production data, and in a way that a skeptic can understand.

2. It performs in a way that ensures future proofing while avoiding vendor lock-in. After the first engagement with a client, each new project will fit into the broader data-centric architecture and will be pre-integrated. This work can later be re-used and leveraged to extend the ontological model.

LESSON 3:

To instill confidence, you need to prove value through a series of projects validating the utility of the data-centric paradigm.

Most of our clients re-engage us after the initial engagement to guide in the adoption. Generally, we extend the engagement by bringing our approach to more sub-domains. While in parallel, we help a client think through the implementation details of the architecture by modeling the business via an ontology and contextually connecting information with a semantic knowledge graph.

Part of the magic of our modular approach to extending a knowledge graph is that each newly integrated subdomain expands the limitless applications of clean, well-structured, and verified data. The serendipitous generation of use cases can't be planned (as they are not always obvious), but it often creates opportunities that delight our clients and exceed their expectations.

Let's take a text-guided tour of what led us to these conclusions, as well as the events that shaped our history.

A Historical Account of Semantic Arts

If we look at the official registration date with the Colorado Secretary of State, Semantic Arts was formed on August 14, 2000. However, reality is rarely as clear-cut as what's captured on paper. In fact, we had already been operating loosely as Semantic Arts for several months prior.

Stick around, and we'll take you through the journey; from August 2000 to the time of this writing, August 2025.

FOUNDING & EARLY EXPLORATION (2000)

- In 2000, the idea of applying semantics to information systems was just beginning to gain traction, with emerging efforts like SHOE, DAML, and OIL.

- Leaning into this promising field, the company was aptly named *Semantic Arts* and served as a vessel through which contracts flowed through to the consultants, all of whom were subcontractors.
- There was virtually no demand for semantic consulting, largely due to a lack of understanding of what "semantic" even meant, so Semantic Arts focused on delivering traditional IT consulting projects (such as feasibility studies and SOA message modeling), often embedding semantic models behind the scenes to build internal capabilities.

THE 1ST SEMANTIC WAVE NEVER CAME (2001–2002)

- In 2001, the “Semantic Web” was formally introduced by Tim Berners-Lee, Jim Hendler, and Ora Lassila in Scientific American, and given Berners-Lee’s legacy as the inventor of the World Wide Web, excitement soared.
- On surface, it appeared that Semantic Arts was poised to ride what seemed to be the next monster wave, but the wave never came.
- Despite the hype, potential clients remained unaware or uninterested in semantics, and adoption stagnated.

BOOKS, CLIENTS, AND THE BIRTH OF gist (2002–2004)

- From 2002 to 2003, while Dave McComb authored *Semantics in Business Systems: The Savvy Manager’s Guide*, while Semantic Arts primarily sustained itself through contracts with the State of Washington.
- Behind the scenes, Semantic Arts developed semantic models for departments such as Labor & Industry and Transportation, and it was during the Department of Transportation project that gist, the open-source upper ontology, was born.
- A small capital call in 2003 helped keep Semantic Arts viable, with Dave McComb becoming majority owner, and Simon Robe joining as the minority shareholder.

EVANGELISM WITHOUT DEMAND (2005–2007)

- From 2005–2012, Semantic Arts produced the *Semantic Technology Conference* and simultaneously began teaching how to design and build business ontologies.
- Despite the proactive outreach efforts, the market remained indifferent.
- During this time, an ontology for Child Support Enforcement in Colorado was created, but clients were still largely unreceptive to semantic technologies.

THE FIRST WAVE OF REAL DEMAND (2008–2011)

- In 2008, interest in semantics began to emerge with Sallie Mae being among the first to seek an ontology for a content management system.
- Semantic Arts advised the team to build a Student Loan Ontology instead, a decision that proved critical when legacy systems could not support a new loan type, marking the first real demonstration of the serendipitous power of semantics.
- Other clients soon followed: Lexis Nexis (their next generation Advantage platform), Sentara (healthcare delivery), and Procter & Gamble (R&D and material safety).

FROM DESIGN TO IMPLEMENTATION (2012–2016)

- By 2012, Semantic Arts had matured into a premier ontology design firm; however, increased efficiency meant projects became smaller, and few enterprises required more than one enterprise ontology.
- A pivotal change occurred when an intern transformed the internal timecard system into a graph-based model, which became the prototype for Semantic Arts' first implementation project, partnering with Goldman Sachs to solve a "living will" regulatory challenge.
- This era saw deeper implementations, including a product catalog for Schneider Electric in partnership with Mphasis, and marked the period when Dave McComb eventually bought out Simon Robe to become the sole owner of Semantic Arts.

SCALING THE DATA-CENTRIC MOVEMENT (2017–2019)

- By 2017, implementation projects had overtaken design as Semantic Arts' core business, and feedback from those projects helped rapidly evolve gist, with clients including Broadridge, Dun & Bradstreet, Capital One, Discourse.ai (now TalkMap), Euromonitor, Standard & Poor's, and Morgan Stanley.
- Dave McComb published *Software Wasteland*, followed by *The Data-Centric Revolution*, both of which galvanized interest in reforming enterprise modeling.
- Up to this point, Semantic Arts was primarily composed of highly experienced senior ontologists and architects, but with the growth of implementation work, they developed repeatable methodologies and began hiring junior ontologists and developers to support delivery at scale.

INSTITUTIONALIZING THE VISION (2020–2024)

- Around 2020, Semantic Arts realized that version 1.0 of the model driven system was not going to satisfy the increasing demands, so work began on a more ambitious version 2.0 (*code named Spark*) to begin development of a low-code, next-generation model-driven system.

- In parallel, implementation work toward data-centric transformations continued at pace with clients including Morgan Stanley, Standard & Poor's, Amgen, the Center for Internet Security, PricewaterhouseCoopers, Electronic Arts, PCCW (Hong Kong Telecom), Payzer, Juniper Networks, Wolters Kluwer, and the Institute for Defense Analyses.
- At some point, Semantic Arts decided that the industry needed some companies that could become fully data-centric in a finite amount of time, which led to further self-experimentation, and in an unplanned way yielded towards data-centric accounting, and the book promoting it, Real-Time Financial Accounting: The Data-Centric Way, by Dave McComb and Cheryl Dunn to be published in late 2025.

THE NEW SELF-GOVERNANCE OPERATING MODEL (2025)

- In 2025, Semantic Arts entered a new era of self-governance as ownership transferred to the Semantic Arts Trust, secured by a royalty agreement that ensures independence from market acquisition.
- The firm is now guided by a five-person Governance Committee, responsible for key deliberative functions such as budgeting, staffing levels, and strategic direction, alongside a new President (Mark Wallace), who leads day-to-day strategic execution.
- One of the first key initiatives in transitioning to this self-governance model is to improve the discipline and repeatability of the marketing and sales functions, making the pipeline of new work more predictable.

If you're interested in learning more about why we transitioned into an employee-governed company, we'll leave you in suspense just a little while longer. We're currently writing a companion article to this one, where we'll share more about the company's secret sauce, cultural DNA, and what makes Semantic Arts as unique and bespoke as the work we do for our clients.

You can find more information on our about us page here:
https://www.semanticarts.com/about-us/

Looking towards the Future

As we reflect and prose on the last 25 years, we adjust our sails to ride the wind of our lessons into the next 25 years. We have a plan. It is not set in stone, but it is surprising how many things have remained constant over these last few decades, and we anticipate them staying constant into the future.

Most software companies operate hockey-stick business plans that forecast explosive growth over the next few years. If you're a software firm, that pace is both possible and desirable. But as a professional services firm, there is a natural limit to how fast we can, and should grow. We've seen that natural growth limit in other professional services firms, and we've experienced it ourselves. We think that the limit is around 25% per year. Under that number, culture and quality can still be maintained, even as a firm grows.

We've chosen the slightly more ambitious 26% per year as our target. 26% yearly growth is the number that results in a firm doubling in size every three years. We won't always hit this exact target, but it is what we are aiming for. Afterall, the vast backlog of legacy applications, combined with the continuing accumulation of new legacy systems, suggests that we will have meaningful, high-impact work for far longer than 25 years.

If you're a history buff, you might appreciate learning a thing or two about Dave McComb's origin story. His professional background deeply shaped the DNA of Semantic Arts and continues to influence how it functions today.

Dave McComb's Origin Story

Since we're reviewing Semantic Arts' history in 25-year increments, we'll do the same with Dave, starting in 1975 and leading up to the founding of Semantic Arts. Like a skyscraper, an organization can only rise as high as its foundation is strong, and thanks to Dave's remarkable background and expertise, Semantic Arts has been built into a truly exceptional organization.

BREAKING INTO THE REAL WORLD (1975 - 1979)

- Dave started his career in software in 1975, teaching the class "The Computer in Business" at Portland State University, while getting his MBA.
- The same year, he got his first paid consulting gig, for an architectural firm (maybe that's the source of his fascination with architectural firms); to computerize the results of some sort of survey they had issued for a whopping $200 fixed price bid.
- He joined Arthur Andersen (the accounting firm) in their "Administrative Division," which would become Andersen Consulting and eventually Accenture.
- Five years of building and implementing systems for inventory management, construction management, and payroll, he was made a manager and shipped off (in a plane) to Singapore.

- After rescuing a plantation management system project that was going badly, he ended up in Papua New Guinea (no good deed goes unpunished).

BUILDING AN ERP SYSTEM FROM SCRATCH (1980 - 1989)

- On the island of Bougainville, Papa New Guinea was home to what was, at the time, the world's largest copper and gold mine.
- Their systems were pathetic, and so, Dave launched a project to build an ERP system from the ground up (SAP R/2 did exist at the time but was not available on the ICL mainframes that ran the mine).
- The plan was fairly audacious: to build out a multi-currency production planning, materials management, purchasing and payables system of some 600 screens and 600 reports with 25 people in two years.
- The success of that project was mostly due to partially automating the implementation of use cases.

AI BEFORE IT WAS COOL (1990 - 1994)

- Around 1990, Dave returned to the U.S. and was tasked with delivering another custom ERP system, this time for a diatomaceous earth mine of similar size and scope as the previous mine in Papa New Guinea.
- In this project, there was even more automation leveraged, in this case 98% of the several million lines of code were generated (using artificial intelligence in 1991).
- Around this time, Dave started the consulting firm First Principles, Inc.
- One of the anchor clients was BSW, the architectural firm that designed all the Walmarts in North America, and it was on this project, in 1992, that First Principles decided to apply semantics to the design of database systems.

TURNING A CORNER AT THE END OF THE CENTURY (1995-1999)

- First Principles, was rolled into Velocity Healthcare Informatics, a dot com era healthcare software company.
- Velocity Healthcare Informatics built and patented the first fully model-driven application environment, where code was not generated, but behavior was expressed based on information in the model.

- Alongside this new model-driven application, the nascent semantic methodology evolved and was grafted onto an Object-Oriented Database.
- Velocity Healthcare Informatics created a semantic model of healthcare that in 1999 the medical director of WebMD, said, after a multi-hour interrogation his team, “I wish we had that when we started.”
- Velocity Healthcare Informatics built several systems in this environment, including Patient Centered Outcomes, Case Management, Clinical Trial Recruiting and Urology Office Management.
- Towards the turn of the century, Velocity Healthcare Informatics was preparing for the road show to go public in March of 2000 when the dot com bubble burst.
- Velocity Healthcare Informatics imploded in a way that intellectual property could not be salvaged, and as a result, several of the employees jointly formed a new company in the late spring of 2000.

Stay in Touch with Us

Now that you know where we came from and what we've done to get here, we hope you can join us for the next 25 years as part of the community, as a co-worker, and / or as a client.

Reach out to us for anything you might need.

FOR MORE INFORMATION:

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