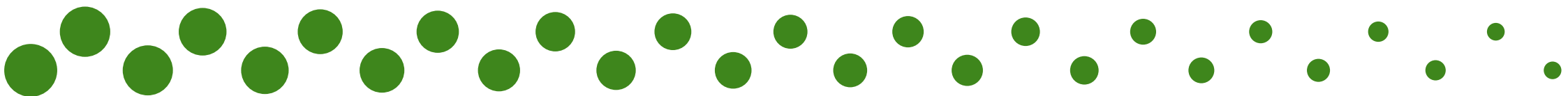




Alternative Go-To-Market Strategies for Green Chemistry Ventures

A discussion paper on speed, capital intensity, and strategic design

Discussion Paper | Green Chemistry | Go-To-Market Strategy



Isn't it time to change your own game?

GCNE¹ calls Green Chemistry Ventures the 'gamechangers', capable of driving the shift toward a sustainable, circular economy. Yet many of these companies struggle to keep momentum, and despite their ingenious technological contributions, funding is tight and customer traction is slow.

Over the past three years, we have worked with about one-third of the Dutch Green Chemistry Ventures² in the Green Chemistry Accelerator and the Funding Sessions. We noticed that most 'gamechangers' are using the same playbook: their strategy prioritizes technology development and postpones real market interaction until demo-scale. This route is capital intensive and time consuming. Our (limited) dataset indicates that the few companies that have chosen alternative go-to-market strategies significantly reduced the time and costs of developing their venture.

Green chemistry ventures that don't commercialize can not be gamechangers. We started to wonder: would it be possible to develop alternative go-to-market strategies for green chemistry ventures that could really change the game?



This publication was developed by Gijs van de Molengraft (Gritd) and Anieke Wierenga (ScaleUp Practitioners) for Groene Chemie Nieuwe Economie in December 2025.

¹ Groene Chemie, Nieuwe Economie. Home. <https://groenechemie.nl/nl/>

² GCNE estimates that over the past 20 years, approximately 350 Green Chemistry Ventures were founded in the Netherlands, of which around 100 companies remain active today.

What's the Playground?

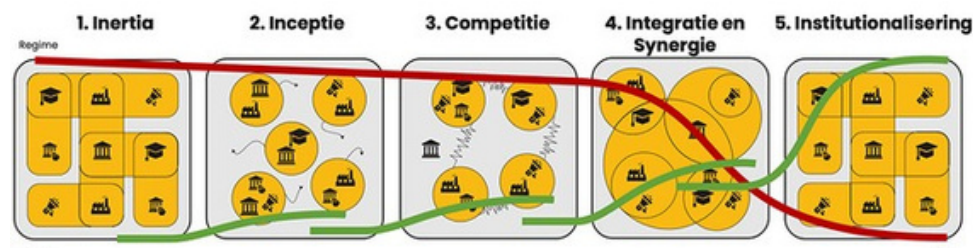
Chemical companies have traditionally been characterized by large production volumes, long product life cycles and long-term agreements. Despite this apparent stability, chemical companies operate on thin margins and are highly sensitive to energy prices and government policy. Their business models rely heavily on economies of scale: the larger the production volume, the lower the unit cost and the better a company can withstand market volatility.

Within this paradigm, traditional venture strategies aim for large-scale production capacity to allow for cost-competitive propositions that fit within the current chemical infrastructure. But even at scale, most green chemistry technologies will require additional subsidies or mandates to become commercially viable.

At the same time, the development of a fossil-free, circular chemical industry is currently only at its infant stage³ (stage 1 or 2 in below graph⁴). To become less dependent on virgin fossil sources, the chemical industry would require a radical make-over, involving new technology, a new infrastructure and alternative feedstocks. This early market context is fundamentally different from the established chemistry frame.

Green Chemistry ventures have a choice: should they play by the rules of the established market or rather invent the new rules of the emerging sustainable chemistry themselves?

4. Figure: Transmission Model (New Foresight.com)



³ van Kranenburg, Karin J., R.A. Dowling, N.M.R. van Klaveren, C.A. Schipper-Rodenburg, and F.E. Wubolts. Circular Carbon for the Dutch Chemical and Fuel Sectors. 25 pp. Delft: TNO, 2025. Transmissie (2023) Lucas Simons

⁴ (NewForesight), Andre Nijhof (Nijenrode Business Universiteit) en Matthijs Jansen (Copernicus Instituut) (free download available on www.newforesight.com)

What's the game?

Reaching commercial scale for innovative biological or chemical technologies is not easy. Industrial scale-up of novel routes typically can take more than a decade and involves substantial capital expenditure, while market adoption within the existing infrastructure can take even longer. To this end, the industry typically follows the following four scaling steps:

Lab (TRL 1–3): Gather experimental evidence of the concept in a controlled laboratory environment.

Pilot Plant (TRL 4–5): Develop a prototype that is tested in a pilot or test environment

Demo Plant (TRL 6–7): Further develop the prototype and test it in an operational environment.

Commercial Plant (TRL 8–9): Prepare the technology and operations for full-scale commercial launch in the target market.

Even though industrial scaling often encounters many technological hick-ups, the most difficult part is the creation of a viable commercialization route. How to align customers, regulatory bodies, feedstock suppliers and investors to create a viable business with green technology in a fossil-driven environment?

What's the standard playbook?

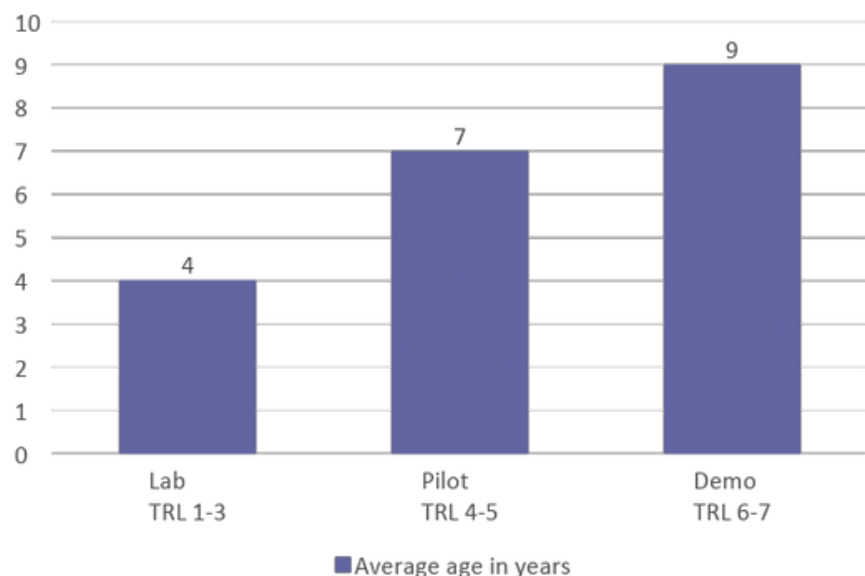
The common go-to-market strategy of the so-called gamechangers mimics the innovation playbook of large corporations in an established market. Such approaches fit Porter's Five Forces framework⁵, in which firms compete with their customers, suppliers, buyers and new entrants for margins and market share. Porter's framework assumes relatively stable industry boundaries and views firms as operating within a defined market. In this model, successful companies aim to dominate through strong IP portfolios and build business through transactional deals.

Most ventures in our data set prioritize in-house technology development up to TRL 6–7, and only actively start commercializing at scale. Inadvertently, this strategy puts them head to head in the high volumes-low margins game, at which incumbents excel.

⁵ Porter, Michael E. "How Competitive Forces Shape Strategy." Harvard Business Review 57, no. 2 (1979): 137–145.

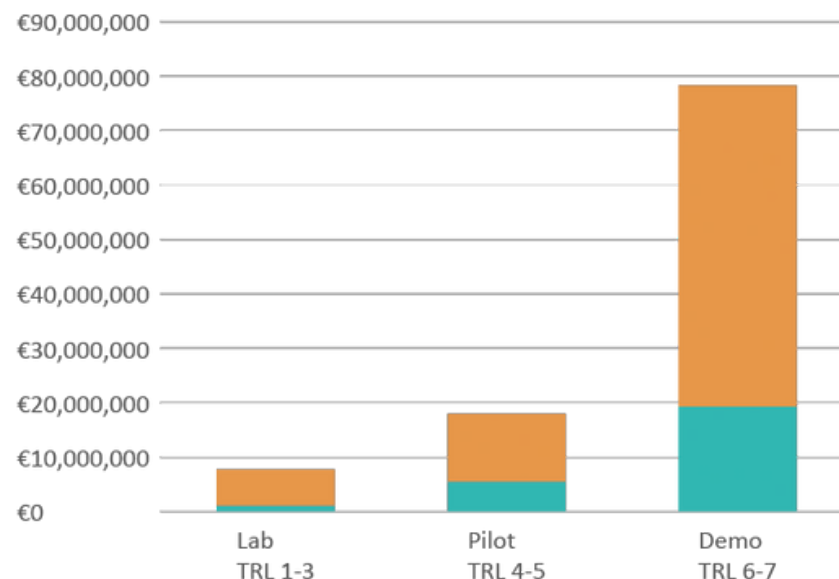
Our data confirms: standard Go-to-Market (GtM) strategy is costly and time consuming

Over the last three years, we have worked with over 35 of start-ups within the Green Chemistry Accelerator⁶ and the Green Chemistry Funding Sessions in the Netherlands. In this report, we use the GRITD scan data to analyze scaling strategies.



It takes years to prepare the technology for the market.

The data confirms that the time to market is long for green chemistry startups. Companies testing their technology in an operational environment with their demo plant are on average nine years old.



It is costly to produce at scale.

The chosen scaling strategy, aiming to reach industrial-scale production volume as quickly as possible, requires substantial capital investments. Companies working on their demo plant have already received an average of €19 million in funding and are seeking an additional €59 million for the next investment round.

⁶ <http://www.gritd.nl/startup-framework>

Implications of the Standard GtM Strategy

- Green chemistry ventures do not generate commercial income during the first decades of their existence, which makes them very much dependent on external investors.
- Ventures tend to prioritize their IP portfolio above their commercial leverage.
- Commercializing at scale inadvertently puts innovative ventures into a game at which the incumbents excel: low margin-high volumes.
- Commercialization success will depend on unpredictable, future, policy from regulators and industry bodies.
- Therefore: Most ventures struggle to raise funds (CAPEX) required for demo- and commercial- scaling of their innovative technologies.⁷

⁷ Project Moonshot report by TFN (May 2025)

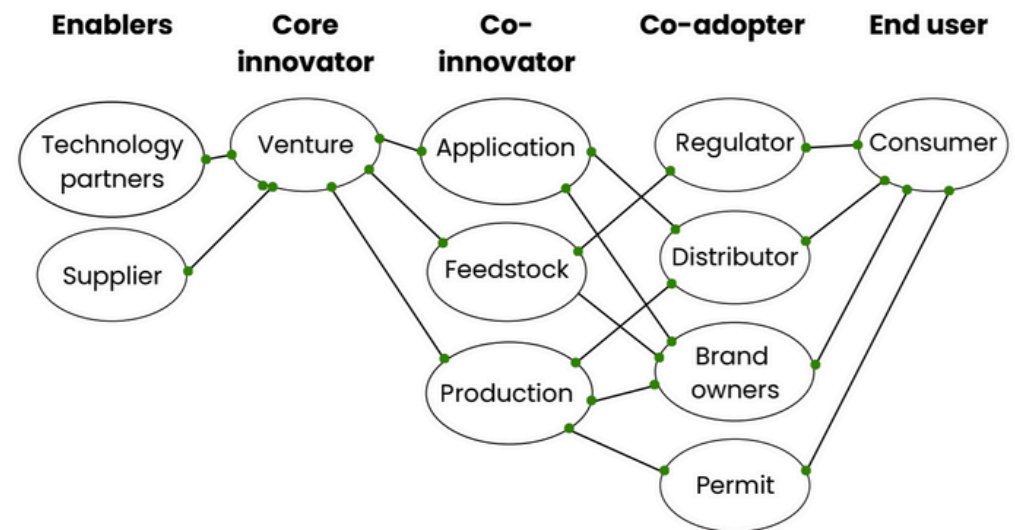
An Alternative Gameplan:

What would happen if more ventures started to play to their own strengths: rather than trying to compete on scale and price, bring the focus on their unique power to pioneer innovative technology, a strong R&D team and production flexibility? How would that alter their Go-to-Market strategy?

As opposed to Porter's Five Forces game,⁸ Ron Adner argues that in the early phases of a new market, it may be more effective to aim for a so-called 'ecosystem strategy' and aim for collaboration with market players instead of competition only. In that way, Green Chemistry ventures can play a critical role in shaping the emerging market structures (business models, coalitions) and the rules of the sustainable chemical industry.

In Green Chemistry, there is no such thing as a 'drop-in' solution. To create value for the end-user, the venture's innovation will require complementary innovations and adoption from various other players.⁹ Successful ventures align with such critical partners to accelerate successful market introduction.¹⁰ Data shows that startups aligned with a larger company in the existing ecosystem have a better chance of success than startups that don't.¹¹

Green Chemistry: no such thing as a 'drop-in'



⁸ Adner, Ron. *Winning the Big Game: How to Disrupt, Defend, and Deliver in a Changing World*. Cambridge, MA: The MIT Press, 2021.

⁹ Adner, R. (2012), *The Wide Lens: A New strategy for Innovation*. Portfolio Hardcover

¹⁰ Prof M. Tarakci in Wierenga, A.M. et al. (2024), *Circular Venture Building, Emerging Fundamentals*, Invest-NL.

¹¹ Jaspers, F., Prencipe, A. and Van den Ende, J. (2012), *Organizing Architectural Innovations: Evidence from Mobile Communication Applications*, *Journal of Product Innovation Management*, 29 (3), 419-431

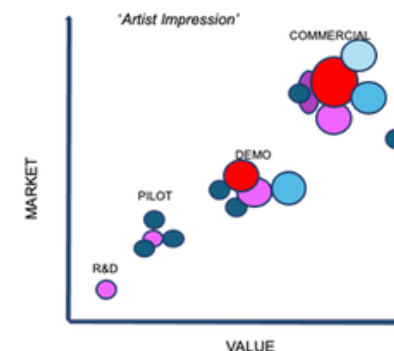
What could an alternative Green Chemistry GtM strategy look like?

<p>JOINT TECH DEVELOPMENT: Seek for active (financial and capability) involvement from incumbents in technology scaling.</p> <p>Venture proposition: Innovative technology.</p> <p>Value Created: Sustainable innovation.</p>	<p>NICHE STRATEGY: Focus on a product-market combination in which the innovation brings immediate value, rather than aiming for a wide scale adoption.</p> <p>Venture proposition: Specialty chemical or application, that competes on price or functionality in a specific market segment.</p> <p>Value Created: Sustainable propositions.</p>
<p>PAID RESEARCH: Develop income streams from paid research and development projects.</p> <p>Venture Proposition: Technology capabilities (lab, pilot plant, IP and Team).</p> <p>Value Created: Sustainable Routes for existing players.</p>	<p>PROJECT DEVELOPMENT: Create value from ecosystem alignment around an existing technology proposition.</p> <p>Venture proposition: Project Development/ Project management.</p> <p>Value Created: Industry Transition.</p>

The first move does not have to be the end game

By creating viable coalitions in green chemistry, ventures become actively engaged in the market creation for sustainable solutions. In collaboration with industry partners, the value proposition of the venture will evolve with the development of the market. And vice versa, the market will mature, larger partners may get involved as the green chemistry value propositions ripen.¹²

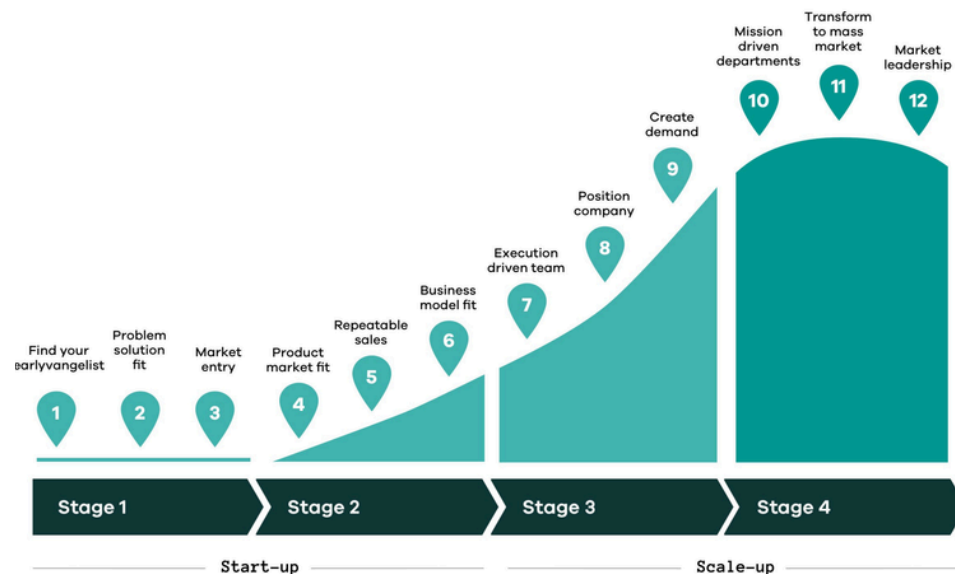
- A niche could become the venture's beachhead: the first customer segment that you dominate before scaling to others.¹³
- A collaborative approach to technology development could significantly reduce the capital needs and tap into resources from existing players to accelerate industrial scaling.
- We envision that in the future ventures may also change their business models to adapt to the maturing market circumstances.



¹² Dattee, B., Alexy, O., & Autio, E. (2018). Maneuvering in poor visibility: How firms play the ecosystem game when uncertainty is high. *Academy of Management Journal*, 61(2), 466–498.

¹³ 'The Art of Scaling', ScaleUpNation, 2020.

We compared the Go-to-Market strategies of our ventures to the GRITD Startup Framework Milestones.



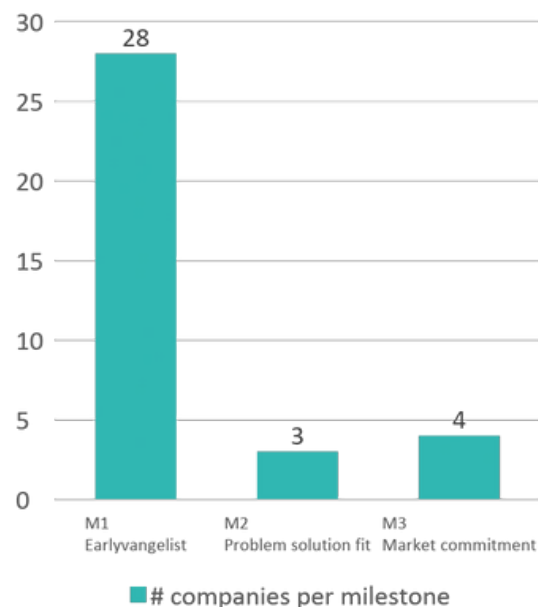
Most companies in our dataset [28(!) out of 35] still have no evidence that their customer actually wants to solve a problem with their solution. These companies are R&D focused, and on average, they only spend 3% of their available time on market research and customer validation.

We found that the seven companies that spent significantly more effort in customer and market validation in the early phases, often also choose a specific market approach. Five of them chose a niche strategy: and the data indicate they required more than ten times less capital and more than halved their time-to-market compared to mass market players.

And three companies in our data set opted for a partnership strategy in which they collaborate with existing industry players. We found that companies that have a strategic partnership in place reduce capital needs and time-to-market even more than niche players.

Companies that use an alternative go-to-market strategy go faster

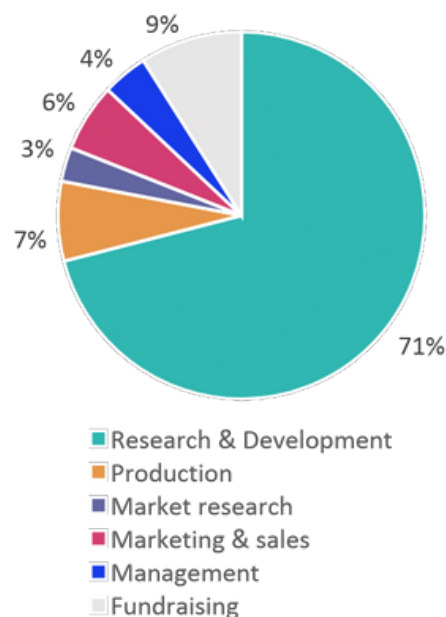
01. Companies per milestone



Most companies lack proof of real customer problems

Most companies still have no evidence that their customer actually wants to solve a problem. For 28/35 companies, this solid proof and in-depth customer insight is missing. This puts them at risk of developing a product that the customer will not buy.

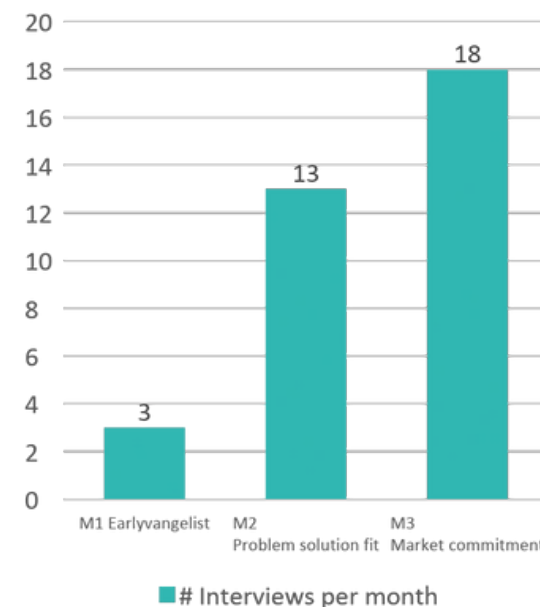
02. Time distribution



Companies still before Milestone 1 spend only 3% of their time on market research

The data shows that companies that have yet to reach the first milestone spend only 3% of their available time on market research. This market research consists mainly of desk research and conversations with the market about their technology.

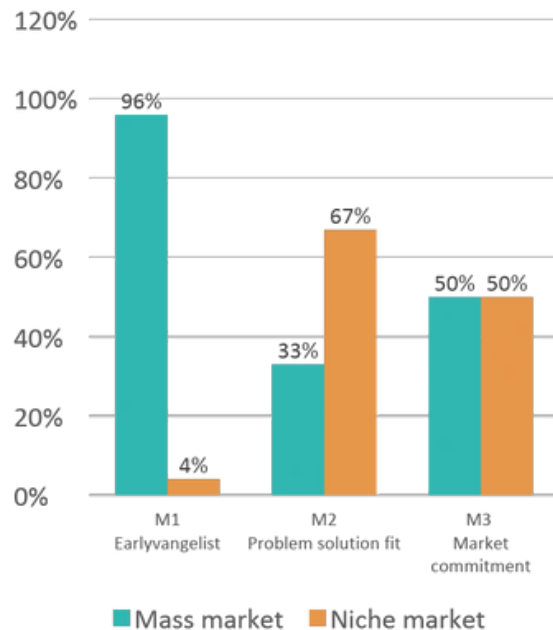
03. Customer interviews per month



Validation Drives Engagement

Companies that have validated a customer problem speak with their customers about that problem 4 to 6 times more frequently each month than companies that have yet to reach the first milestone.

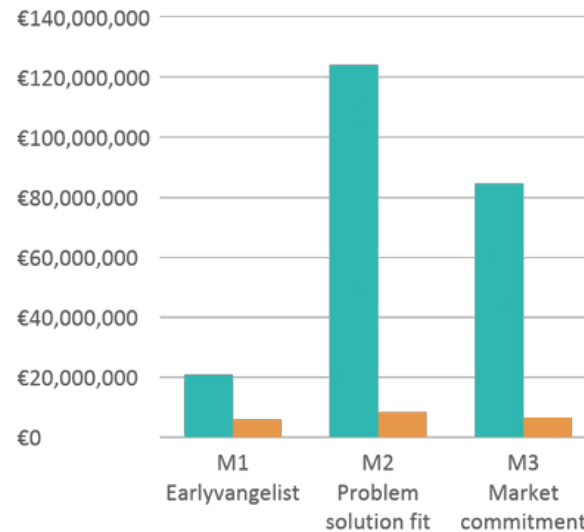
04. Mass vs niche market



Validated companies start in niches, not mass markets

96% of companies begin with the idea of entering a mass market and competing on specifications and price. However, companies that have validated a customer problem often choose to start with a niche segment instead. They have identified a group of committed customers, making the niche a more strategic entry point than the broader market.

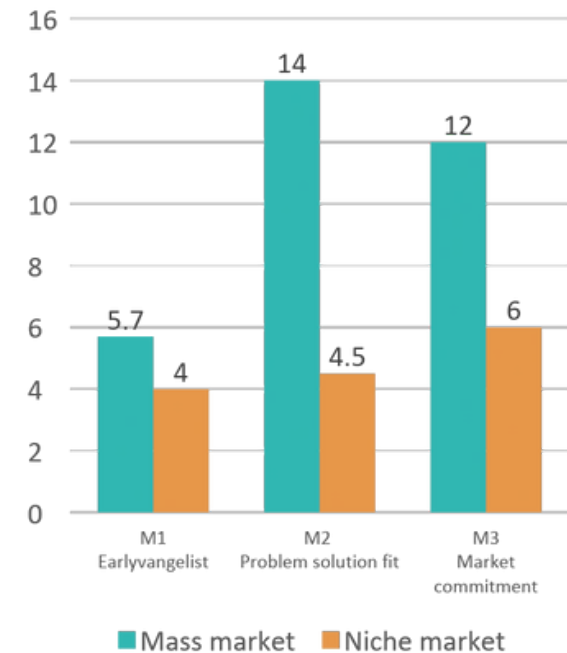
05. Funding need



Niche market entry requires over 10x less capital

Companies that choose to enter the market with a niche require more than ten times less capital than those targeting the mass market. The primary reason is the significantly lower production capacity used to calculate the First Of A Kind Factory (FOAK) needed to reach breakeven.

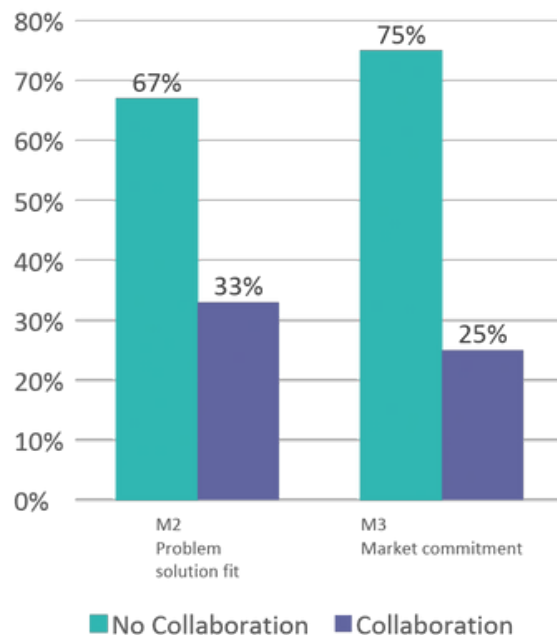
06. Company age



Niche focused companies reach milestones faster

In addition to requiring less capital, companies that target a niche also need less time to reach their milestones. By concentrating on a smaller, well-defined customer segment, they accelerate progress and reduce the complexity that often slows down broader market strategies.

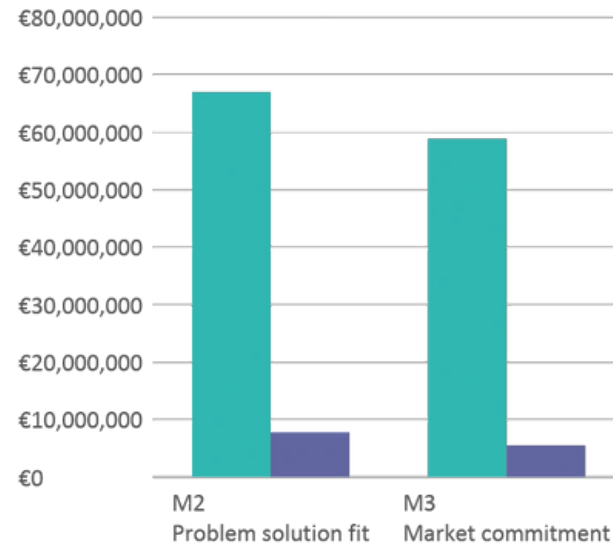
07. No collaboration vs collaboration



Strategic partnerships significantly reduce capital needs and speed up progress

The data also shows that having a strategic partnership has a substantial impact on both the capital required and the speed at which milestones are achieved. Despite this clear advantage, the majority of companies do not have any strategic partnership in place.

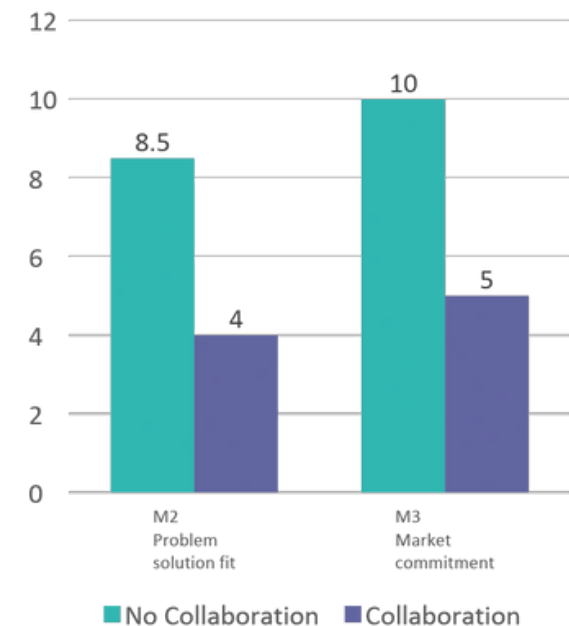
08. Funding need



Strategic partnerships cut capital needs by over 10× in both mass and niche markets

Companies with a strategic partnership require more than ten times less capital than those without one, whether they enter a mass market or a niche market. These partnerships often allow companies to leverage the partner's technology, facilities, or other critical resources.

09. Companies age



Strategic partnerships accelerate milestone achievement

The data clearly shows that companies with a strategic partnership progress through milestones faster than those without one. Strategic partnerships, despite perceived risks, often provide the resources and support needed to grow more efficiently and effectively.

Conclusion

In this article, we take stock of our experiences from three years of support programs for Green Chemistry Ventures. Our data shows that although these companies are all developing innovative technology pathways, their go-to-market strategies are often traditional and closely follow the familiar playbook of large chemical companies in established markets.

At the same time, we observed that a number of “outliers” who chose alternative strategies were able to significantly reduce development time and costs. We argue that their approach plays to the relative strengths of ventures compared to large incumbents: flexibility, innovative technology, and specific R&D capabilities. In their go-to-market strategies, we recognize patterns of “ecosystem innovation” as described by Ron Adner.

Using that frame, we identify a number of alternative go-to-market strategies that enable ventures to take an active role in changing the game in chemistry. This article does not offer a complete playbook, but serves as an invitation to venture teams and their ecosystem to take a fresh look at their go-to-market strategy.

At the same time, we acknowledge that the ecosystem still has much to learn about which strategies truly succeed in practice and under what conditions. Entering the market is only a first step, not the end goal: lasting impact requires scaling, continuous validation, and collaboration across the value chain to embed new solutions for the long term.

Are you ready to change your game?

Which game are you actually playing? Porter or Adner, or something completely different?

Unfortunately, we have not (yet) found the key towards successfully scaling a green chemistry venture, but we would like to invite you to be honest: are you as innovative in your scaling choices as you are in your technology development?

The million-dollar questions that founders will need to answer every day:

1. What is the value of my innovative green chemistry solution in the hands of market partners and potential investors?
2. Could I align a coalition around a green innovation that pays the bills and allows us to scale venture development with market creation?
3. What could be the role of external investors? Do they enable my scaling strategy, or do they push me into a direction that will eventually negatively impact my competitive position?