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MD START III: Refining the Model

With a new, much larger fund to work with and a first exit under its belt, Paris-based incubator MD Start has validated its model, still rare in Europe, and is looking for new projects.

DAVID CASSAK

Established about a decade ago, Paris-based incubator/accelerator MD Start launched seven companies out of its first two funds. This past year, the company achieved two significant milestones: the first exit of one of its portfolio companies, preCARDIA, developers of a device to treat acute decompensated heart failure, to **Abiomed** for an undisclosed amount as well as the final close of a new fund of significantly greater size than its first two. These events raise the question: for an incubator like MD Start, which is a truer indication of success: the sale of its first portfolio company —a milestone for any incubator/accelerator— or the raise of a new, much larger fund?

To be clear, the preCARDIA deal came after the bulk of the major new fund-raise for MD Start III, which actually began in 2018, so it's a stretch to say that the exit represents an affirmation of MD Start or its model and might have influenced the size of the latest fundraising. MD Start III investors were clearly looking at more than one company in the portfolio when they were considering whether to back the new fund. Anne Osdoit is a partner at both MD Start and the Paris-based venture firm Sofinnova Partners, one of the founders of MD Start. "What I felt when raising MD Start III was that there was some respect, from an investor standpoint, for our proprietary deal flow and the notion that we were able to turn that into a series of good products," she says. In other words, following an initial seed investment, the MD Start companies in the first two funds had been able to achieve sufficient milestones around regulatory approval and IP protection, that the incubator had "created the kind of company that an investor would want to invest in for a Series A." Most, if not all, of the companies have gone on to Series B and later rounds as well, which suggests that "we had an operational track record that people trusted."

ANNE OSDOIT

Of course, with no actual exit on its books, "by no means did we have any financial track record," Osdoit acknowledges, and incubator executives worried they'd not be able to raise funds for a possible MD Start IV without an exit. "But people [i.e., backers of MD Start III] were giving us credit for that deal flow and for turning it into good companies," she says. MD Start had created "a record that people respected and thought we could turn into something financial." The preCARDIA deal didn't drive the latest round of fundraising, but, she adds, "it basically supplied what was missing, which is the idea that we can return money based on those good products."

But more than simply having raised a new round, what's most striking about MD Start III is its size: nearly 10 times the several million euros in the first two iterations. Whether that increase—and the endorsement it represents—was due more to the kinds of projects MD Start took on in its first two funds or, more generally, to an affirmation of the incubator model is a point of debate. "I think one goes with the other," says Osdoit. "I think they [i.e., MD Start III's investors] were convinced that we have a model that has enabled us to identify good technologies, turn them into companies, and create a portfolio that was good enough to raise MD Start III."

Still, the preCARDIA deal is important—MD Start officials recognized that until they proved an ability to achieve an exit, future fundraising was uncertain. "It was the last time we could raise a fund without it," she adds.

A New Relationship

MD Start I was launched in 2009, a joint venture between Sofinnova Partners and **Medtronic plc** designed to mine in the various countries in Europe for promising medical devices—communities that over the years had pioneered much in the way of clinical innovation, but had produced relatively few actual medical device companies. (*See "MD Start: Building Medtech Companies in Europe," MedTech Strategist, October 16, 2018.*) Two years later, MD Start brought into the fold another

corporate partner, **LivaNova**, and another venture partner, US-based Versant Ventures.

preCARDIA was launched in MD Start I, but as the incubator advanced slowly, funding came though MD Start II. Tim Lenihan, one of the founders, recalls that it took two-and-a-half years to raise MD Start II, which closed in 2016.


TIM LENIHAN

Fundraising for MD Start III started in 2018 and saw a first close a year later. "It didn't take that long," says Lenihan. After that initial close, the subscription period was re-opened for a few months in 2021, leading to a total raise of €63 million (approximately $72 million), largely from people who had invested earlier in the round or had been talking with the team for a while. (The advent of COVID had interrupted the first fundraising efforts and there were some investors who wanted to continue earlier discussions. This second tranche raised an additional €13 million, or $15 million.) By way of comparison, MD Start I raised €8.75 million (around $10 million) and MD Start II, €10.3 million (just under $12 million.)

New investors include the European Investment Fund (EIF), BNP Paribas, the Elsan clinics (a large French hospital system), a family office with holdings in the preclinical labs space, as well as several serial medtech entrepreneurs and high-net-worth individuals. In addition, with MD Start III, Sofinnova Partners has assumed a new role. The venture fund is no longer a separate entity and simply one of the investors in the incubator. Rather, it has taken the incubator in-house, making MD Start III one of several funds now managed by the Paris firm.

The new relationship with Sofinnova allows MD Start III to be "more ambitious," says Osdoit. "We wanted to raise a substantially bigger fund to be able to participate in follow-on funding rounds beyond the seed rounds. But to do that, we needed to turn MD Start into a real fund, if you will." MD Start could have created its own management company or simply worked within Sofinnova, she goes on. "But we decided that working within Sofinnova would be more powerful and efficient for everyone."

As with MD Start I and II, MD Start III includes Medtronic and LivaNova as corporate investors/partners, and has added **Baxter Healthcare Corp.** to the roster. Versant is no longer involved, though Sofinnova obviously is and its chairman and managing partner, Antoine Papiernik, is on the investment committee. In addition, MD Start has built relationships with other venture firms and, notes Osdoit, "We get input from the corporates and VCs very early on when we are evaluating projects so that we're able to leverage their expertise and their network when making a decision."

A Higher Bar

The size of the new fund does change the game for MD Start. "The bar is higher in terms of returning money to our investors," Osdoit says. "But on the flip side, it gives us an opportunity to invest in A rounds to protect our interest in [the companies MD Start launches]." That ability to invest in later rounds is a significant departure for MD Start III, says Lukas Guenther, a partner at MD Start, who joined in 2019. "In the past, MD Start was built on project-based financing," he explains. "Everyone had to present [an idea] to the investment committee and ask for an investment." The committee often said yes, though not always. "It wasn't really a fund structure," he goes on. "Now we are a closed fund of a substantial size, which is very different."


LUKAS GUENTHER

Thus, whereas MD Start I and II would typically invest €2 million in a seed round, MD Start III is more likely to put €3-4 million in a seed round, with another €3-4 million in a Series A. It may even invest in select Series B rounds, says Anne Osdoit, though not as a rule.

Having begun raising money pre-COVID, MD Start III is technically two years old and has already made two investments, with a third pending, at the time of its recent closing. The larger size of the fund may also enable MD Start to launch more companies, though Osdoit cautions, "Instead of starting four companies, we might do six, but we don't want to do many more."

With so much more money to invest and a refined model, why wouldn't MD Start take on substantially more projects? Lukas Guenther says this third fund does face some limitations, even with additional money. "One is that when we incubate companies, we're assuming operational roles in them," meaning MD Start III doesn't have the bandwidth to take on significantly more projects. "I think it will be difficult to have more than four companies in parallel." But the larger fund does give MD Start the opportunity for new projects to be more ambitious and deploy more capital "not just another syringe or something boring," as he puts it. Furthermore, it can invest deeper in a company as it advances, "which will be good for us on the cap table and from a dilution point of view, and will help us form syndicates. It also will show that we are committed to the companies we start." As for investing in later rounds, Guenther is cautious. "It's already significant that we're able to co-invest in the Series A; I don't think we'll often go beyond that." The larger fund "will enable us to go a substantial leap forward, but it doesn't mean that we'll cover the whole [investment]."

A Call for Projects

As for where those projects will come from, Guenther notes that MD Start has "relationships with most of the prominent tech transfer offices of Ivy League universities in the US, as well as centers in Europe that inform us if they have a new project." And with its close contacts at leading strategics, MD Start might even be a candidate for so-called build-to-buy projects, either with its corporate partners or unaffiliated strategics. Says Guenther, "It would work well, particularly for technologies that could fit into [an existing big-company] portfolio."

To generate as many ideas as possible, MD Start even issued a "call for projects" earlier this year. "We are actively approaching inventors and inviting them to submit projects to us," he says. To keep submissions to a reasonable flow, "we made very clear what we're looking for, which is therapeutic medtech with technologies that have an impact on the patient's life, and on the outcome of the disease." Over time, MD Start's principals have also built their own networks, which has helped deal flow. "Entrepreneurs whom we have worked with refer things to us," says Guenther.

That said, the larger size of the fund and the new model aren't really about how many companies MD Start can launch. Rather, because the incubator model invests only enough money to demonstrate viability, a lot of companies were started, "but then, when other people came in and invested larger sums of money in a Series A, MD Start was diluted heavily," says Guenther. The ability to invest in a Series A and protect against dilution is, he says, "a game changer for us."

At the same time, MD Start differs from conventional venture funds, Guenther argues, because it invests much earlier than most VCs these days. "We're not looking for the traditional team that comes through the door and makes a presentation," he says. "We're looking at ideas and projects that mostly come from academia, but also from entrepreneurs and people who probably aren't yet able to translate their idea into the clinic in a concretely de-risked fashion." In the past, Guenther notes, the perception was that MD Start is "an incubator that's mostly financed by corporates who want to get an idea of what's going on in the early-stage front." With the new investor base, that no longer holds true. MD Start III is a combination incubator, accelerator, and venture fund. "For people outside," he goes on, "it may not be obvious how we operate, but we are independent of the corporates in our decision-making. They advise us through our strategic committee," but they don't sit on the investment committee. "We're making those decisions."

Similarly, MD Start wants to avoid the perception that it is a captive of Sofinnova Partners and that the Paris fund will supply all of the funding for its companies. Says Guenther, "Obviously, we are working inside Sofinnova, but MD Start is a stand-alone fund, and it should not be taken for granted that the Sofinnova capital fund will finance every project, nor should it be our primary goal that this is the final form for the capital fund. We are open to partner and syndicate with people who have the best knowledge in the field and can help to bring a technology to market."

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A Diversified Portfolio

Given the early nature of their efforts, it's not unusual for incubators to begin to think about their next projects once they've used up all the money in one fund and are raising money for the next. preCARDIA was launched as part of MD Start II but had been incubating as early as 2013 as part of MD Start I. "We worked on it for three years, but it didn't close until 2016 because we didn't have any money," says Tim Lenihan. (MD Start II's **SafeHeal** took a similar path.)

Lenihan, who played a founder's role in MD Start I and II, but won't be part of MD Start III, recalls that the technology for preCARDIA's heart failure device came out of a lab at Boston's Tufts Medical Center. Patients who are suffering from acute decompensated heart failure typically have anywhere from five to 15 liters of extra fluid in their body and are usually treated with diuretics to drain the fluid; preCARDIA's balloon treats an acute episode by intermittently occluding

the superior vena cava to reduce the volume overload. "When there's volume overload, the heart swells and doesn't pump efficiently," he explains. "By parking some of the blood in the venous system, we're able to let the heart relax and diurese naturally."

preCARDIA was eventually incorporated in 2017 and its first in-human case was performed that year. The Series A, which was led by Abiomed, closed in August 2018, and was used to run a 30-patient early feasibility study; the completion of that trial triggered the acquisition that took place earlier this year. That Series A was the only financing the company did.

Over the years, as MD Start has refined its model, its selection criteria have changed. Lenihan points to **CorWave**, one of MD Start's first projects, developers of a device to treat chronic, as opposed to acute, heart failure, as an example. Because of its long development time, "It's something we wouldn't do in MD Start III and probably wouldn't have done in MD Start II," he says.

MD Start's early focus was on cardiovascular devices; over time, it has diversified its portfolio. SafeHeal, for example, is in the colorectal surgery space, with technology to reduce anastomotic complications and eliminate the need for temporary ostomies in

Figure 1
MD Start Portfolio

	NEWCO	CREATION DATE	SPECIALTY	TECHNOLOGY	COMPLETED MILESTONES
MD Start I	APD Advanced Perfusion Diagnostics	2011	Critical care	Critical care monitoring device for early detection of shock and sepsis	FIH, CE mark, FIH 2ND generation; **Acquired by Vygon in 2020**
	CorWave	2011	Cardiology	New blood pumps gentle to the blood, fully pulsatile, small and efficient	Preclinical validation
	LimFlow Transforming CLTI	2012	Vascular surgery	Percutaneous deep vein arterialization to revascularize the foot in critical limb ischema	FIH, CE mark, US IDE study ongoing
MD Start II	SafeHeal	2016	Digestive Surgery	Intracolonic bypass sheath for anastomosis protection	FIH, CE mark
	preCARDIA	2017	Cardiology	IV cardiac preload modulation for acute decompensated heart failure treatment	FIH, US IDE study ongoing, FDA breakthrough designation. **Acquired by Abiomed in 2021**
	AblaCare	2017	OB GYN	Minimally invasive treatment for polycystic ovary syndrome	FIH ongoing
	HEPTA Medical	2018	Pulmonology	Radiometric sensing for microwave ablation prediction	Fully specified prototype Preclinical validation
MD Start III	Gradient Denervation Technologies	2020	Cardiology	Minimally invasive treatment for pulmonary hypertension	Preclinical validation
	Moon Surgical	2020	Robotic surgery	Ubiquitous laparoscopy assistance platform	Preclinical validation

Source: MD Start

patients undergoing colectomy. **LimFlow**, out of MD Start I, is in the field of peripheral vasculature (*see Figure 1*).

Anne Osdoit notes that cardiovascular devices continue to be a target of MD Start in its third fund "for the usual reasons. Lots of innovation in the space, very savvy clinicians, very creative ones. A lot of VC money going into that space, and lots of potential acquirers." But continuing the trend toward diversification, one company recently launched, **Moon Surgical**, is a robotics platform for assistance during minimally invasive surgery. "That's a very hot space as well, and an interesting field for us," she adds. MD Start is, Osdoit notes, "generally agnostic in terms of specialty. As long as it serves an unmet medical need in a large market, we're interested."

The incubator is, similarly, agnostic about geography when it comes to sourcing, though a bit of French flavor can be sensed when it comes to establishing its portfolio companies. Of the three companies already launched by MD Start III, **Gradient Denervation Technologies**, developers of a novel approach to pulmonary hypertension by denervating the pulmonary arteries, was imported from Stanford's Biodesign program, but is now based in Paris. Moon Surgical is based on technology in-licensed from Paris' Sorbonne and is run by executives who most recently worked at Auris and Intuitive Surgical. The third company came from an incubator in Israel.

As for sourcing projects from China or, more broadly, Asia, MD Start isn't quite there yet. Lukas Guenther notes that right now, China is focused more on importing innovative technology than exporting it to a group like MD Start. "They're actually looking for technology to be transferred into China," he says. But as far as the "cutting edge" therapeutic devices MD Start favors, "we don't see it yet."

Stuck in the Middle

Despite its recent raise, whose size implies at least some affirmation for its model, MD Start believes incubation, generally speaking, has yet to catch on widely in Europe. "I see a lot of interest when we talk to other incubators," says Guenther. "But they lack the funding, and also often lack the depth of experience, particularly in the regulatory and clinical development area, which is something that we've built up over 10 years. For the moment, that makes us unique."

Anne Osdoit agrees: "We're not seeing a lot of other initiatives." In fact, she argues that MD Start is best seen as complementary to the efforts of other European incubator/accelerators such as, for example, the Milan-based venture firm Innogest, which has helped launch a cardiovascular-focused incubator. (*See "Innogest and the Virtues of Focused Investing,"* MedTech Strategist, *February 20, 2019.*)

Most early-stage incubators basically do "sourcing, a little bit of tech transfer, and initial due diligence and de-risking," Osdoit says. But they're often limited in how much they can invest in a project, an issue MD Start III no longer has to worry about. The amount a typical incubator invests "is probably a fraction of what we can put in a seed round," she says.

Such efforts are "basically a step before what we do," she says. "We might actually take over projects from other incubator structures in Europe." Most early-stage incubators basically do "sourcing, a little bit of tech transfer, and initial due diligence and de-risking," she goes on. But they're often limited in how much they can invest in a project, an issue MD Start III no longer has to worry about. The amount a typical incubator invests "is probably a fraction of what we can put in a seed round," says Osdoit. Most incubators are "more focused on identifying projects and helping with the initial steps of the transfer into a company than we are." MD Start does that "plus development, plus initial clinical trials. I think we have an opportunity to work with all these structures; there hasn't been something really comparable to us in terms of how far it will take projects."

And if that was true of MD Start I and II, it's especially true of MD Start III. MD Start III's third investment, out of an Israeli incubator, is a case in point. "I think a number of Israeli entrepreneurs and investors are finding that the local ecosystem

As to whether the size of MD Start III's raise or the recent exit is more indicative of the incubator's success, there are arguments on both sides.

is amazing for starting companies," Osdoit says. They're able to get grant money, support, and expertise from executives in the Israeli medtech industry. But over time, "a lot of these companies find themselves in a valley of death between their seed round and their first-in-human, because they raised too little money in their seed round, or got only a fraction of what they needed to de-risk the project through the public grants." Thus, she says, "they don't yet have the milestones that enable them to raise a Series A, and they're stuck somewhere in the middle. They could keep on piling local money and angels and public money into their project, but it's not going to get them where they need to be in terms of getting to the US for an early feasibility study, or doing a first-in-human in Europe. At some point they need to go broader and beyond Israel, and that includes funding."

That's where an incubator like MD Start can help. Adds Lukas Guenther, "That's the key. We believe we can increase the likelihood of success because of deep domain expertise during this early stage. We are the ones who de-risk those projects; we aren't like those investors who say, 'Come back when you have de-risked it.'"

Where's the Exit?

Fifteen years ago, when he was trying to launch MD Start I, Tim Lenihan recalls, "The first people I talked to were Hanson Gifford [of The Foundry] and Josh Makower [of ExploraMed] to pick their brains over a cup of coffee." MD Start "has come a long way, for sure," he says.

MD Start's recent exit and the amount of money it raised in its most recent iteration is an illustration of how far this experiment in European incubation has come. Anne Osdoit notes that the key to success for MD Start is "finding a structure that enables you to work without constantly fundraising, and without raising the bar too high in terms of how much money you need to return [to investors]. That's why it's tricky. When we looked at The Foundry and Coridea [the New York-based incubator that recently signed a deal with Deerfield to form DF Catalyst], it always seemed like it was going to be exhausting to raise money project after project, until we actually had the track record that would lead people to give us money for the shell that would welcome the next project." MD Start isn't quite there yet, she says. But the huge fund raised and the exit move in that direction. So does the new structure. "If you do it as a fund, as we have, you make life a bit more difficult in terms of how much you need to return, but you aren't raising money all the time. There's a trade-off between having enough money to work for a number of years, but also still make it reasonable in terms of exit expectations." (For more on Deerfield Catalyst, see "*Deerfield Catalyst: Building a New Medtech Ecosystem,*" MedTech Strategist, *March 10, 2021.*)

As to whether the size of MD Start III's raise or the recent exit is more indicative of the incubator's success, there are arguments on both sides. Certainly, it is the *raison d'etre* of incubators, perhaps even more than a venture fund, to achieve exits, and in the process to validate the early judgement or expertise of the incubator team, both to select projects and to nurture them. Simply raising a lot of money proves neither but speaks to a kind of confidence, earned or not, on the part of other investors. That's why exits are so important.

But a first exit is also only a snapshot in time. MD Start I, II, and III have launched around 10 companies combined, and there's still the possibility, if not likelihood, that several if not most of the remaining companies will find their own exits in time, especially since, say many incubator executives, incubators often take longer to realize exits, precisely because they get involved with projects so early. (*See "Rainbow Medical: Building an Incubator for the Long Haul,"* MedTech Strategist, *October 24, 2016.*)

Thus, it's entirely likely that MD Start, having launched about a decade ago, will start to see more exits and fairly soon. And some of those may make the preCARDIA deal—something of an outlier because of Abiomed's early participation—look small in comparison. "You go out and raise money and after a while, people say, 'Well, you haven't had an exit yet,'" says Lukas Guenther. "But I say, 'We've got 10 healthy companies, all with good data. It's going to happen.'"

Guenther points out that MD Start III was able to raise its latest round "not being able to brag about any exit." Like Anne Osdoit, he believes that "it will surely help us to raise MD Start IV." Still, he notes, "the exit came at a good time because it underlines what we've been doing all along." MTS

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