

# The Daily Deal

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# Lilliputian ambitions ?

France's Jean Michel Karam navigated his startup through rough VC waters to a public listing of his MEMS technology company last year. But this manufacturer of very small high-tech products now wants to consolidate the MEMS industry.

by Joshua Jaffe

Meet the American Dream à la française. Jean Michel Karam, the founder, chairman, president and CEO of **Memscap SA**, the world's only publicly traded company focused on micro electro-mechanical systems, or MEMS, technology, has Texas-sized ambitions for his company's very, very small offerings.

Memscap, nestled in the St. Ismier suburb of Grenoble, France, develops wireless and optical networking products based on MEMS, which are microscopic systems that combine mechanical, optical, electromagnetic or thermal devices with electronics, usually on silicon substrates similar to those used in the semiconductor industry. The end products are smaller, more efficient devices that can be used where traditional mechanical structures would be too bulky.

Karam claims that his company's 11 patents furnish Memscap with a key technological edge which, alongside its state-of-the-art fabrication plant in the foothills of the French Alps, gives his company a critical manufacturing advantage over the jumble of startups and a few high-tech giants chasing the same Lilliputian ambitions. His listed status on the France's high-tech bourse in Paris,

the Nouveau Marche, adds to Memscap's market prowess, he argues, giving it more market visibility and a stronger cash position.

"We want to dominate the MEMS industry," Karam says confidently. His plan: fiscal discipline, a sharp focus on a wide range of MEMS-based applications, and some well-timed acquisitions. These moves, he believes, will allow him to keep ahead of an estimated 200 privately held companies, which collectively have raised more than \$500 million to expand beyond the traditional use of MEMS technology in semiconductor pressure sensors and automotive airbag sensors that have been used for more than a decade.

"I believe consolidation will occur," he says of his competition. And he plans to lead the effort. Ultimately, he hopes to grow Memscap's product line to chal-

lenge publicly listed companies such as **JDS Uniphase Corp.** and **Motorola Inc.**, both of which are conducting internal research on MEMS technology.

Is Karam's vision as far-fetched as Gulliver's Travels? Well, analysts are certainly upbeat about Memscap's technology. "There is no question about the technology working," said Bernard Mahamé, a senior analyst at **SG Cowen Securities Corp.** in Paris. "That is a definite yes. They are among the top two companies, if not the top MEMS company in the world."

In spite of this head start, challenges remain. Memscap's product focus on the telecommunications equipment market means it's exposed to drastically lower capital expenditures by debt-laden telecommunications carriers. Memscap's sales are suffering.

Furthermore, the company's main



claim to fame—three successful photonic switches with so-called “low port counts” capable of easing data bottlenecks on an all-optical metro or long-haul network—does not mean Memscap can build a scalable photonic switch with high port counts that can be manufactured affordably and transmit even more data. Indeed, experts question whether Memscap or anyone else can do that.

Yet even if that tech hurdle can be overcome and telecommunications companies start to increase their spending on all-optical networks, it's still unclear if Karam can ward off the scores of nimble startups and established technology giants that have Memscap firmly in their sights. All of them are trying to deploy MEMS technology in biomedical applications such as pacemakers, electronics applications such as data storage or communications equipment applications such as tunable lasers.

Karam, though, is used to obstacles. After arriving to France from his native Lebanon in 1990, he obtained his Ph.D.

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—Karam

in 1996 soon after launching the first MEMS research-and-development lab at Grenoble's world-renowned TIMA research institute. He left the world of pure research in 1997 and launched Memscap the next year, spinning out the technology into his first startup.

Armed with \$13.2 million in venture funding from Paris-based Inovacom, Paris-based SPEF Venture and Lugano, Switzerland-based ETF Group, Memscap was one of the few technology com-

panies of any kind to achieve an initial public offering this year. The company raised €101 million (\$93.3 million) on France's Nouveau Marche in March, valuing the 32-year-old's 27% stake in the company at €16 million.

While he bucked the down market conditions with Memscap's IPO, Karam hasn't escaped the sector's ongoing woes. The company's low point occurred on September 11 when it hit a nadir of €0.9 per share, furnishing the company with a market capitalization of only €33. The share price has recovered to a current level of €2.8, but still far below its €8-

per-share offering price.

So, why did he rush his company to the public market when the fortunes of his two main customer bases, wireless and optical networking companies, were fading? “The money we raised allows us to cross any desert,” he said. Aside from cash, the IPO lavished the company with heaps of press coverage and the necessary financial transparency to reassure customers about its staying power.

Still, privately held MEMS-based startups are receiving significant financing these days, too. Onix Microsystems Inc., for example, a Richmond, Calif.,





MEMS-based designer of tiny optical switching engines, closed a \$95 million third round in August led by Chicago-based JK&B Capital.

How important is the credibility gained from an IPO in Europe, where staid corporations are less willing to buy gear from a startup than their American counterparts? Karam said it's only marginal, defending European levels of entrepreneurialism and downplaying his regular visits to Silicon Valley in the mid-1990s. Instead, he stressed his upbringing in Lebanon, where entrepreneurial business skills are highly valued.

Karam is busy exporting these values to France, he says. He sits on the investment committee of **Emertec**, a £20 million Grenoble-based early stage venture capital fund dedicated to backing micro-electronics startups. He has also invested in four local startups, among them **iRoC Technologies SA**, a Grenoble-based integrated circuit design company, which raised \$5 million in first round funding earlier this year.

**K**aram can afford to spend some of his time contributing to what locals in Grenoble consider to be "the Silicon Valley of Europe" because, unlike many young high-tech startups, his financial position is assured. "I don't have to waste energy thinking about financing," he said.

Karam doesn't waste much time either. During an interview at the end of an optical networking conference, he capitalized on a pause in an interviewer's questioning to greet a visiting research analyst with a handshake and a smile. In his consistently upbeat manner, he hinted at good news in the future.

Initially, funds raised from the IPO were supposed to be directed toward building a €55 million fabrication plant and for acquisitions. However, a few months later, Memscap cut a deal to finance 90% of the cost of the fab through bank leasing, which now leaves the company with €84 million in cash for acquisitions. And, unlike his privately held cross-town rivals **PHS-MEMS SA** and **Tronic's Microsystems SA**, Memscap has acquisition currency in the form of publicly traded stock. "I think at this

stage, since they are the only quoted player with cash on hand, they could certainly contribute to consolidation," said SG Cowen Securities analyst Malhamé.

So what are the company's needs? While annual revenue growth has topped 300% since 1998, it will still only amount to an estimated €10.5 million this year. Acquisitions could provide a much needed and immediate boost. Karam, however, downplayed the likelihood of an acquisition in the near future to bulk up any of Memscap's four main business units.

He argues that his company's manufacturing division will be complete when the fab is finished next year, while its MEMS-based software design tool unit is growing organically.

No deals are imminent, either, to bolster the company's two main revenue producing divisions: its microscopic wireless design business, which is targeted at portable device manufacturers seeking to shrink the size of their products, and its optical networking equipment unit, which manufactures switches, variable attenuators, tunable filters and assembly components based on its MEMS-technology.

"Memscap's differentiator is that we are MEMS based," he said. "If we buy an optical company, we will be considered an optics company." Instead, with the support of Memscap's recently appointed head of M&A, Vincent Tempelaere, Karam is scouting the globe for targets that can bolster the company's MEMS-based consulting services, which touch all four units of the company. Tempelaere joined Memscap from SG Cowen a few months after he lead managed the company's IPO. At the Paris-based firm, he was vice president in the firm's European technology corporate finance group's equity development division.

"They have to focus on where they see revenues," said Gary Kelly, a senior analyst at **Robertson Stephens International** in London. "With optics weak and wireless telecom dead money for a long time, the consulting division is as good as any."

That division received one of its biggest contracts last month when Paris-

based cosmetics provider **La Licorne Laboratories SA** hired Memscap to design and manufacture a sensor-based unit that analyzes the physical and chemical properties of skin surfaces in order to recommend a specific skin care product.

The company is also pushing into new areas of MEMS-based technology such as biomedical research and is considering acquisitions or organic growth as the means of bulking up, according to Karam. However, he repeatedly warned that any acquisitions would have to bring with them revenues and not bleed the company of its cash.

Acquisitions are nothing new for the MEMS industry. Last year, when communications equipment companies were riding high, chip companies such as **Cypress Semiconductor Corp.** and communications equipment companies such as **JDS Uniphase** spent more than \$6 billion buying up MEMS startups. The activity was highlighted by **Nortel Networks Corp.**'s acquisition of **Xros Inc.** for a shocking \$3.25 billion, most of which was subsequently written off.

Karam doesn't expect a return to those acquisitive deal values anytime soon. "I don't believe we will see many acquisitions [in the near future]," he said. "Companies are more focused on research and reorganizing their businesses."

The prospect of a quick trade sale isn't high on his agenda either. Karam insists he wants to build Memscap into a profitable company with hundreds of millions of euros in revenue a year.

As a sign of his long-term commitment, the company has taken the unusual step of establishing an office in Cairo to capitalize on the availability of well-educated but inexpensive engineers. He added that another motivation for the Egyptian office is that in 10 to 15 years, manufacturing could be shifted there if costs in France become too high.

If Karam does find a way to continue growing, his path from one-man spin-out to IPO and beyond could end with him transforming the communications equipment industry. Lilliputian ambitions? Hardly. **D**

