



Small devices, big news !

Today, the microtechnologies (including the semiconductor, MEMS, biochip and optical component manufacturing activities) have never been so moving. Everyday, technological and business-related news (alliances, new facilities, new start-ups, lay-off, closings, new developments ...) are published. In this confusing environment, it is becoming more and more difficult to have a global overview of the trends.


Yole Développement (www.yole.fr), the leading consulting company in strategy, marketing and business development in the MEMS and semiconductors field, has the ambition to provide you with a monthly follow-up of the semiconductor, MEMS, biochips and optics industrial activities. Today, the semiconductor and MEMS fields needs supporting marketing and business development activities. Therefore, Yole can provide both specific analysis or dedicated reports. Specific analysis are made for customers in order to help the analysis and development of business. Dedicated reports are describing the business and technology trends in specific fields.

Every month, MicroNews will give the latest news and trends. Moreover, a special report covering "hot" topics (such as an overview of the real European MEMS industrial activity, the new deal in the fibre-optics business after the market collapse, the market trends in biochips and microfluidic chips, statistical data on more than 300 European fabs ...). We are pleased to offer you the next 3 issues for free.

Along with the latest news that will keep you informed, we hope that our point of view will be of valuable help for you. We will be pleased to help you developing your business through MicroNews.

Jean-Christophe ELOY

Semiconductors



Top 10 chip equipment ranking: Lithography suppliers did better than other segments

MEMS



ST's MEMS controller for hard disk drives

Bio & Microfluidic Chips



Gyros headquarters double in size

Optics



Lion Photonix and OnStream MST combine their efforts

Editorial page 1

Key Data page 3

Special Report pages 4 to 5

An overview of more than 300 European fabs

Semiconductors pages 6 to 9

Difficulties in the electronic Japanese companies

Intel: no need of the much-delayed Fab 24 in Leixlip

Philips announced closures and will move fab line

Sumitomo and Mitsubishi merge to become SUMCO

Hynix and Micron still negotiating ; Infineon is also interested

Philips, ST Micro and TSMC plan a 300mm wafer fab joint venture within March

Products based on SiGe technologies consume too much

Intel's transition to the 90nm

Top 10 chip equipment ranking: Lithography suppliers did better than other segments

European and French semiconductor market

MEMS page 10

EV Group announced the end of headquarter plant expansion

ST's MEMS controller for hard disk drives

Biochips and microfluidics pages 11 to 12

Licensing agreement between Asper Biotech Ltd and Orchid BioSciences, Inc.

Evaluation of Gyros new technology by cancer research organization

Diagnoswiss project granted by the European Community

Optics pages 13 to 15

A new Danish start up using exotic optical effects

Multi Source Agreement for Compact EDFAs

Highwave Raised EUR 32 million

ULM Photonics Opens a new manufacturing facility

Thales spins off optoelectronics firm

Yole Life



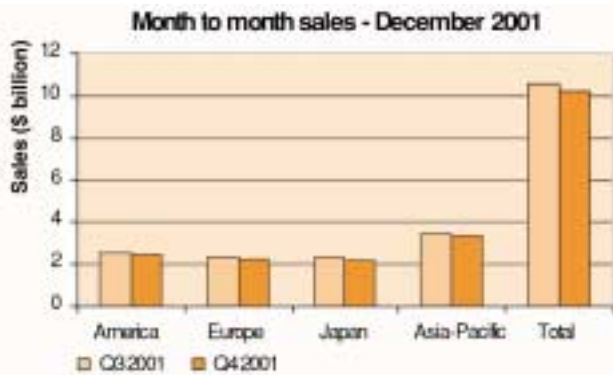
Managing Editor: Jean-Christophe Eloy - Editor in chief: Dr. Eric Mounier - Editorial secretary: Arnaud Edet
Editors: Dr. Yves Jourlin, Sandrine Leroy, Jérôme Mouly - Production: Frédéric Godard, Jean-Marc Cleyet-Marrel
Yole Développement: 45, rue Sainte Geneviève, F-69006 Lyon, France - TEL. (33) 472 83 01 80

List of companies cited in "Micronews"

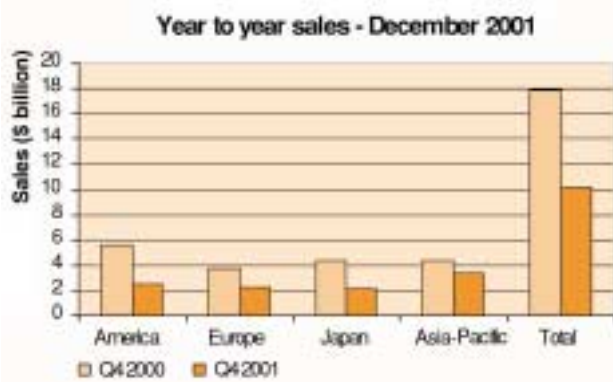
Semiconductors: Advantest Aixtron Alcatel Applied Materials Applied Micro Circuit ARM ASMI ASML Austriansystems BOC Edwards Canon Carl Zeiss Dainippon Screen Elcos ESEC European Semiconductor Manufacturing EV Group Filtronic Hitachi Hynix IMEC Infineon Intel IQE Silicon Compound Ixys KLA Tencor Lam Research Micron Technology Microsonic Laser Mitsubishi Mitsumi Mobileye NanoPierce NEC Nikon Novellus PacketVideo Paradyne Philips Sagem Samsung SCI-Worx Seiko Instrument Sematech SEMI SITELESC ST Microelectronics Strategy Analytics Sumitomo Texas Instrument Tokyo Electron Limited Toshiba Trikon TSMC WestcodeWipro Xenocs Zarlink Semiconductor **MEMS:** Colibrys Coventor EV Group Lion Photonix OnStream MST ST Microelectronics **BIO:** Artus Asper Biotech Diagnoswiss Exiqon GeneProt GeneScan Genetix Gyros Ludwig Institute for Cancer Research Micronit Microfluidic Novaspectics Nunc Orchid BioSciences Oxford GlycoSciences Qiagen Tecan **OPTICS:** AIFOtec Alcatel Optronics Bookham Technology Finisar Europe FireComms Highwave Optical technologies Hymite Kamelian Micro Managed Photons A/S OpsiTech SA Solus Micro Technologies Southampton Photonics Terahertz Photonics Ltd Thales ULM Photonics

SIA Reports \$139 Billion in Sales for 2001 Global Chip Market

Worldwide sales of semiconductors in the fourth quarter 2001 were unchanged from the third quarter at \$30.5 billion. The Americas, Europe and Asia Pacific regions grew 3.7 % in the fourth quarter, sequentially. In Japan, recessionary pressures pulled semiconductor demand down 11.8% for the quarter.



Source : SIA February 2001



Source : SIA February 2001

www.sia-online.org

North American Semiconductor Equipment Industry Posts January 2002 Book-to-Bill Ratio of 0.81

Stanley Myers, President and CEO of SEMI, said that Front-end equipment bookings are at a low point for this for this downturn. January marks the second consecutive month in which bookings for the final manufacturing equipment segment increased significantly from its previously weakened state.

Billing and Booking in millions \$

	Billings (Three-month avg.)	Bookings (Three-month avg.)	Book-to-Bill
November 2001 (final)	817.2	588.9	0.72
December 2001 (revised)	819.3	628.5	0.77
January 2002 (prelim.)	784.0	636.9	0.81

Source SEMI
www.semi.org

EUR 6.5 million for the first round of Novaseptics

The Sweden company, which is developing equipment for the biotech market has closed its first round of EUR 6.5 million from Stockholm based VC Skandia Investment.

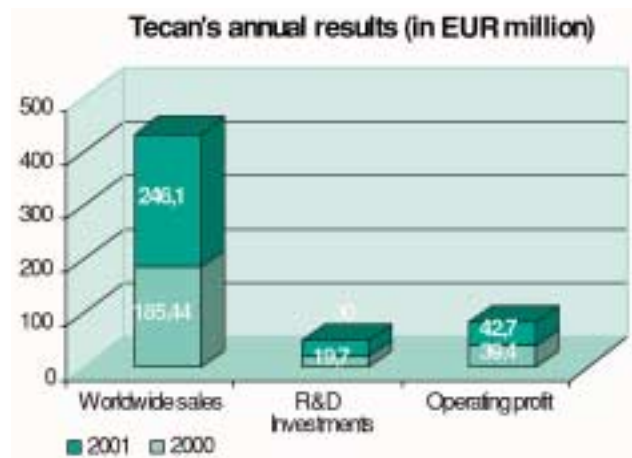
This investment will give Novaseptics a chance to continue its expansion and to increase its current staff (45 persons) with 10-15 new employees within the next 12 months.

Novaseptics AB develops, sells and markets mixers, valves and sampling equipment for which its counts EUR 12.5 worth of sales for 2001, a 50% expansion from 2000.

www.novaseptics.se

Tecan's annual report : sales growth for the year 2001

According to Emile Sutcliffe, CEO of Tecan Group, the business strategy is clearly defined : "Tecan continued to outperform the industry and delivered outstanding results for the year in a challenging market environment"



www.tecan.com

An overview of more than 300 European fabs

In Europe, Yole has identified more than 300 fabs in MEMS, integrated circuits, integrated optics, power devices. This figure also includes major R&D institutes with prototyping capabilities (such as LETI in France, IMEC in Belgium ...). This report shows some statistical data extracted from the study made by Yole.

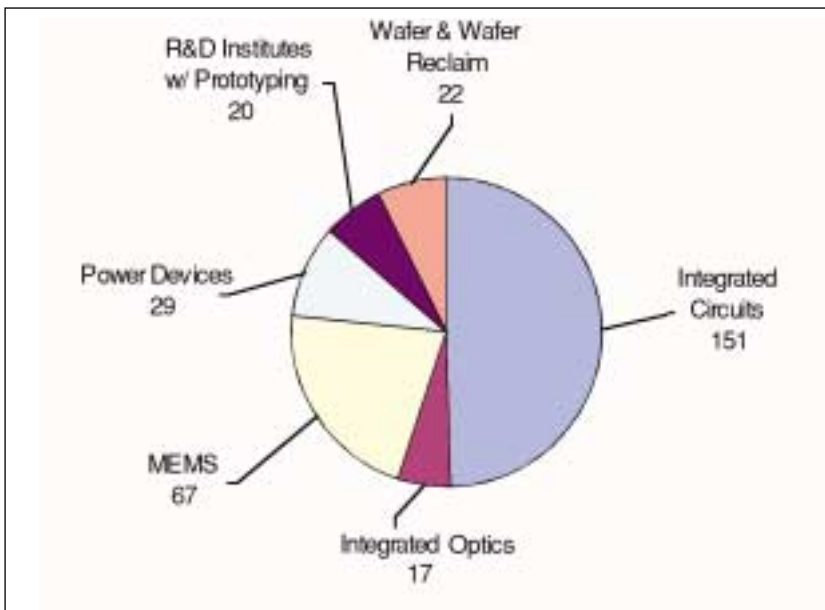


Figure 1 shows the breakdown of European fabs by segment (i.e. integrated circuits, wafer producers, major R&D institutes, power devices, MEMS, integrated optics). It is naturally the most mature industry (integrated circuits) which has the most numerous fabs. However, it is interesting to notice that the MEMS industry is quite strong in Europe with almost 70 fabs.

Figure 1 : European Fabs Breakdown (Total 306) - Number of Fab by Segment

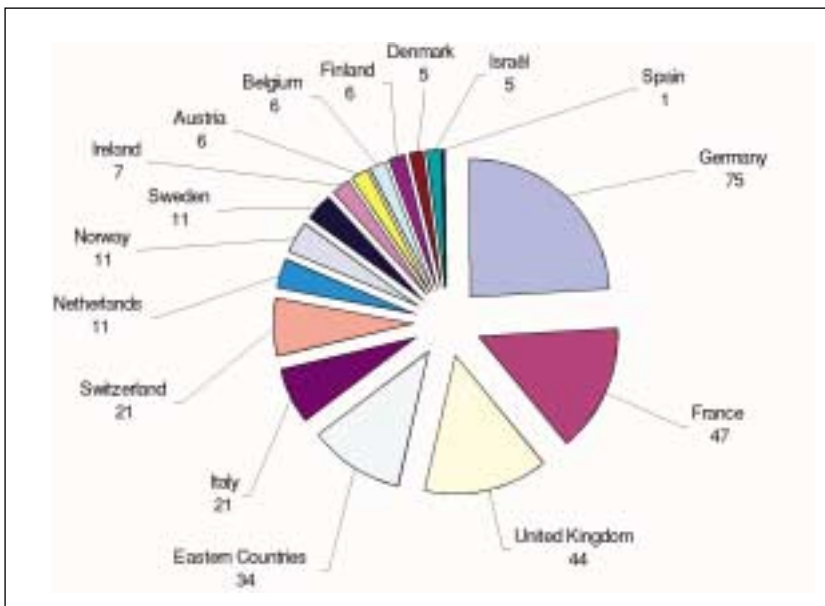


Figure 2 shows that it is Germany, followed by France and UK which has the highest number of fabs.

Figure 2 : European Fabs Breakdown (Total 306) - Number of Fab by Country

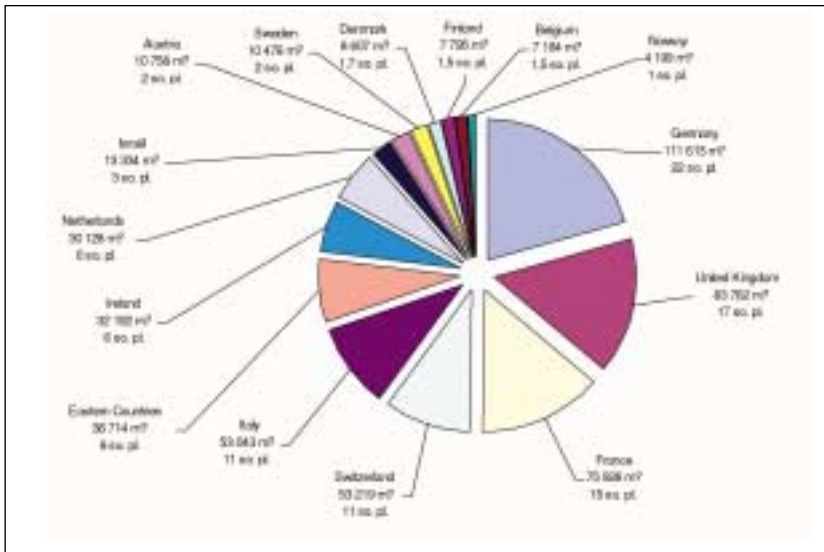


Figure 3 : Clean Room Surface Breakdown (Total 306)
A Soccer Playground = approx. 5 000 m² !

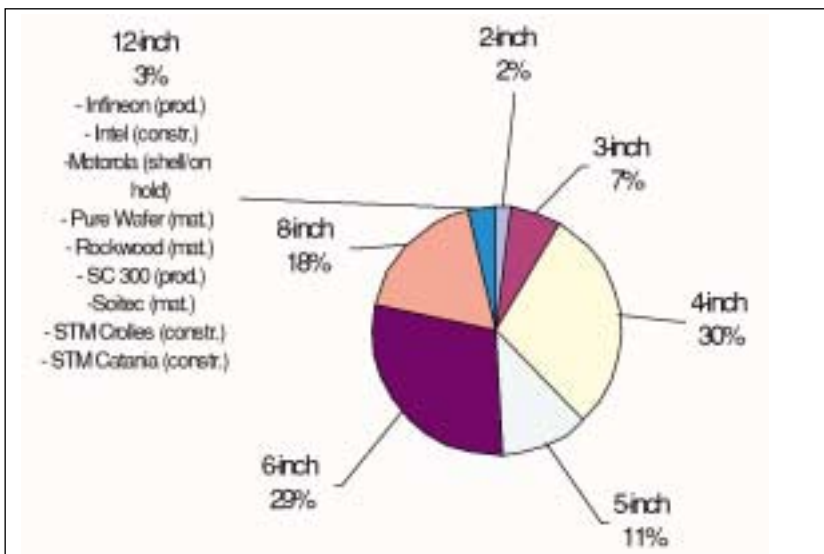


Figure 4 : Wafer Size Breakdown in Europe (Total 306)

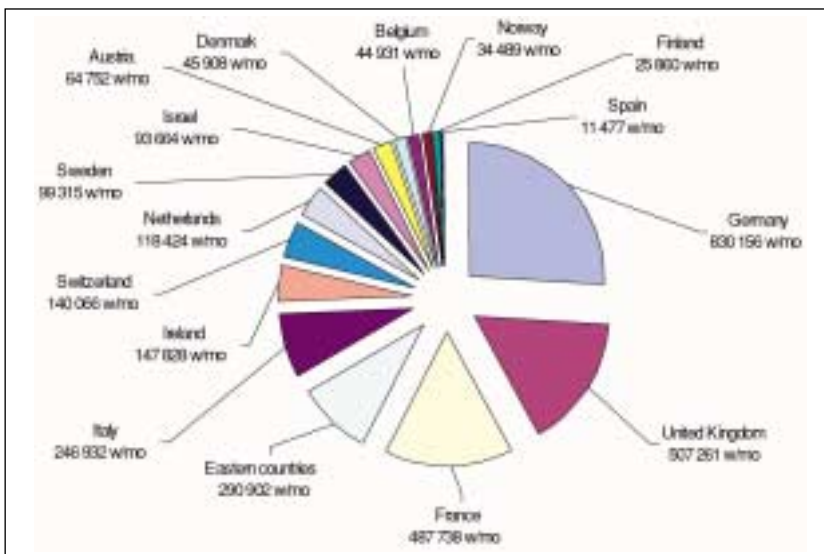


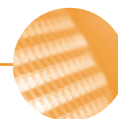
Figure 5 : European Capacity Breakdown (Total 306)
8-inch equivalent wafer start/month

Figure 3 shows the clean room surface breakdown. The calculation has been made by integrating all the clean rooms whatever the components manufacturing activity (MEMS, ICs, optics, power devices). For convenience, the total surface has been converted into soccer playground surface. It is Germany, with an equivalent total clean room surface of 22 playground ! which is the leading European country.

Figure 4 shows the wafer size breakdown in Europe. Infineon (D), Intel (in Ireland), Motorola (UK), SC 300 (D) and STMicroelectronics (F and It) are the foundries processing 300 mm wafers. Pure Wafer (UK) , Rockwood (UK) and Soitec (F) are proposing 300 mm wafers.

Figure 5 shows the 8-inch equivalent number of wafer-start per month. Once again, it is Germany, followed by France and UK which has the highest production capacity.

The database used for the statistics above is available for 900 Euros. Available on CD-ROM, DATAFAB EUROPE delivers in an Excell format a description of more than 300 fabs in Europe for MEMS, ICs, integrated optics, wafers & wafers reclaim. DATAFAB EUROPE provides information on the following categories: Company name, Address / City / Country / ZIP / Phone / Fax / Web site, Listing markets, Stock symbol, Type of facility, Clean room class, Clean room size, Products, Technology, Geometry, Wafer size, Full capacity per month.



Filtronic fab is waiting for April 3G wafer starts

Filtronic does not expect to go into production at its Newton Aycliffe fab until April.

Last year, Filtronic had announced that its fab - in the United Kingdom - expected to enter into production, but now, this production has been delayed.

Filtronics has signed up a Japanese company as the first customer to take components built at the fab.

Other capacities will be acquired by BAE Systems as part of an agreement signed at the end of 2001.

Volume productions are now expected until next summer.

www.filtronic.com

Difficulties in the electronic Japanese companies

Japanese companies in the fields of semiconductor and electronic components have been hit hard by the downturn. Hitachi announced that it would cut 4000 more jobs within the end of June 2002. This new wave of lay-off at Hitachi is added to the 16 350 jobs cut scheduled for the financial year ended on march 2002. In all, the company expect a 6% reduction in staff. According to the Japanese press, this measure would induce charges about 70 billions Yen.

As Hitachi, NEC, the 3rd worldwide semiconductor manufacturer, announced 14 000 jobs cut. This is a consequence of a dramatic financial year 2001/2002 for the company. NEC's net losses would reached 300 billions Yen.

As part of a reorganization occurred after Toshiba Corp. announced its fiscal 3rd quarter, Toshiba America Electronic Components confirmed it was laid off 60 of its employees working at various U.S. branches.

www.hitachi.com - www.nec.com - www.toshiba.com

Intel: no need of the much-delayed Fab 24 in Leixlip

Intel has suggested that it may not need to build its third Fab 24 at Leixlip in the Irish Republic as the lead 300mm production location for processors made on its forthcoming 90nm process.

Intel has 2 other fab in Ireland : Fab 10 and Fab 14 wich employ 3 400 people. In order to lower company costs, Intel not invest in additional site if others can be converted to be 300mm-capable.

www.intel.com

ST renounce to PC graphic chip business and strengthens its presence in wireless applications

STMicroelectronics' PC Graphic chips business is just \$15 million of its \$6.36 billion revenues in 2001.

The company announced that it is seeking a buyer for this business to pull out of the competitive PC graphics accelerator chip market.

On the wireless market, STMicroelectronics strengthens its presence opening a new IC division dedicated to wireless equipment in the south of France. This division will develop GSM/GPRS, CDMA and 3G infrastructures.

www.st.com

Mitsubishi started production of Flash microcontrollers at Mitsubishi Semiconductor Europe

Mitsubishi Electric started production of its 16-bit M16C at its german facility (Aachen).

Aachen facility employ currently 500 people and, from the beginning, mainly produced SRAM and Flash memory. Now, tests runs on the M16C and have been

successfully completed. Mass production devices will be delivered to customers in 2nd quarter 2002.

www.mitsubishichips.com

ESM Ltd in a wave of difficulties

Joint Administrative Receivers of ESM Limited and European Semiconductor Manufacturing Limited announced that following a detailed review of the company's position over the weekend it has taken action to reduce the cost base of the business. This action, which seeks to match the production capacity with the demand for products has been taken for economic reasons and includes implementing an immediate redundancy programme.

The announcement will result in the reduction of the workforce from 527 employees to 292, a total of 235 redundancies.

Derek Howell, Joint Administrative Receiver commented, "over the weekend we have undertaken a detailed review of the company's cost base and developed a strategy aimed at preserving the business and allowing a sale to be explored. Unfortunately the redundancies were essential to reduce the cash needs of the business. ESM is continuing to serve its customers while we explore expressions of interest."

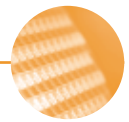
www.nwl-eur.co.uk

Philips announced closures and will move fab line

Because of the decline in demand in the fields of components, semiconductors, telecom, and in order to reduce capacity, Philips announced the closure of a 6-inch fab line in Caen, France (4000 jobs cut), and the move of a 8-inch fab line from New Mexico to New York. This announcement occurred after the presentation of the company fiscal results for the year 2001.

In a period of one year, 18 600 jobs were cut and net losses for Philips reached EUR 6,2 billion compared to a profit of EUR 9,6 billion the year before and sales recorded a 15% decline.

www.philips.com



Philips announced a partnership with MobilEye B.V. and plans co-development with Mitsumi

Philips semiconductors and MobilEye announced a partnership to make System-on-Chip (SoC) for automotive driver assistance (Adaptive cruise control, lane departure warning system, ...). The goal of this partnership is to create customized SoC designs for computationally intensive tasks, including real-time visual recognition and scene interpretation for the vehicle. Philips Semiconductors also announced plans to jointly develop, manufacture, market, and sale analog and mixed-signal ICs worldwide with the Japanese Mitsumi Electric.

www.mobileyeye.com - www.philips.com - www.mitsumi.com

Alcatel and STMicroelectronics sign Co-operation agreement for development and supply of GSM/GPRS chip sets

STMicroelectronics and Alcatel announced an alliance to develop GSM/GPRS chip sets for communications applications.

The co-operation includes the transfer of Alcatel's team of mobile phone integrated circuit designers to ST Geneva based and a multi-year supply agreement associated with 2.5G Chip sets. On the other hand, Alcatel has licensed Paradyne's ReachDSL technology for its microelectronics unit, to jointly develop and produce a new generation of ADSL chip sets.

www.paradyne.com - www.alcatel.com - www.st.com

IXYS completed th acquisition of Westcode Semiconductors

IXYS Corp. announced that it has completed its \$9 million acquisition of Westcode Semiconductors based in Chippenham, UK.

Westcode Semiconductors manufactures and sells very high power semiconductors and employs 400 persons.

www.ixys.com - www.westcode.com

Aixtron and Aachen University in a joint-development program for materials

Aixtron AG, a supplier of Metal Oxide Chemical Vapor Deposition (MOCVD), and Aachen University of Technology announced a joint-development program to expand the use of Gallium-Nitride materials to high power, high frequency IC applications.

www.aixtron.com

BOC Edwards to acquire Seiko Instrument's turbomolecular pump business

BOC Edwards announced first terms of agreement to buy Seiko Instrument's turbomolecular business.

Seiko Instrument's turbo pumps, used on the tool to evacuate process chambers in semiconductor etch, HDP-CVD and ion implant applications, complement the existing vacuum portfolio of BOC.

Employees in development and production will stay at the Narashino factory in Japan.

www.edwards.boc.com - www.sii.co.jp

Infineon with PacketVideo and sci-worx in a technology integration alliance

Infineon Technologies announced an alliance with PacketVideo of San Diego and sci-worx of Hannover in Germany, to integrate multimedia technologies with internet modem chips and application processors for next generation handset.

www.infineon.com - www.packetvideo.com - www.sci-worx.com

Sumitomo and Mitsubishi merge to become SUMCO

Sumitomo and Mitsubishi received approval to merge and create a new wafer company. The company, called SUMCO, has begun operations on Feb 1st and its headquarter location is Tokyo.

The main activity of SUMCO is the production of 300mm blank silicon wafers, positioning the company immediately at N° 2 supplier of starting silicon substrates.

www.sumitomometals.co.jp - www.mitsubishi.co.jp

Hynix and Micron still negotiating ; Infineon is also interested

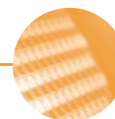
Contrary to the announcement of January, Hynix-Micron talks still ongoing about DRAM business, and Micron Technology wants Hynix to decide by the end of February 2002 whether to continue negotiations to sell South Korean chipmaker's core assets. Micron requested Hynix to accept \$4 billion in sale price. The Korean Minister of Commerce, Industry and Energy intend to influence Hynix to enter into a strategic alliance with Samsung. Hynix is also in discussion with Infineon about a potential joint venture and other alliances. Infineon has offered to buy the memory chip operations of Hynix Semiconductor. Infineon Financial advisers has told that the company is capable of mobilizing up to \$8 billion in cash, bigger than Micron's offer.

www.infineon.com - www.hynix.com
www.micron.com - www.samsung.com

Philips, ST Micro and TSMC plan a 300mm wafer fab joint venture within March

Royal Philips Electronics, ST Microelectronics and TSMC are planning to announce a 300mm wafer fab joint venture in March. This information comes several weeks after AMD-UMC joint venture announcement.

www.tsmc.com - www.st.com - www.philips.com



Zarlink is looking for a buyer for a fab in UK.

Zarlink Semiconductor (formerly Mitel), is seeking a buyer for a fab in Plymouth, UK. The company sold, in a first time, its Canadian facility. Zarlink is on the way of a fabless company.

www.zarlink.com

Wipro and AustrianMicrosystem: a partnership in the Bluetooth arena

Wipro Technologies of India and Austrian Microsystem of Austria announced a chip and silicon foundry partnership to produce and market chip sets for the emerging Bluetooth wireless market.

On the other hand, IQE Silicon Compounds will supply SiGe epitaxy wafers to AustrianMicrosystem for a year.

www.wipro.com

www.austrianmicrosystem.com

Business News

Top 10 chip equipment ranking: Lithography suppliers did better than other segments

Suppliers of Automatic Test Equipment (ATE) are the companies the most hit by the semiconductor downturn.

The 2001 Top 10 list of semiconductor tools from VLSI Research shows that some companies like Advantest slipped from n°7 to 10 and Teradyne fell completely out of the Top 10.

On the other hand, Lithography companies recorded less losses than ATE. ASML remained at the n°5, partly because of the acquisition of Silicon Valley group. Nikon was again n°3 in 2001 and Canon climbed up to n°6 from n°9.

Applied Material remained solidly at the Top even in spite of a 37% decline in revenues in 2001.

One of the biggest gainers in this Top 10 is KLA-Tencor (metrology equipment) with its only 13.7% decline.

Top chip tool suppliers in 2001

2001 ranking	2000 ranking	Company	Country	2001 sales	2000 sales	% change
1	1	Applied	US	\$6.455 billion	\$10.303 billion	-37.3%
2	2	TEL	JP	\$3.557 billion	\$5.142 billion	-30.8%
3	3	Nikon	JP	\$1.928 billion	\$2.623 billion	-26.5%
4	6	KLA-Tencor	US	\$1.685 billion	\$1.953 billion	-13.7%
5	5	ASML	N	\$1.544 billion	\$2.016 billion	-23.5%
6	9	Canon	JP	\$1.135 billion	\$1.418 billion	-20.0%
7	10	Dainippon Screen	JP	\$1.056 billion	\$1.390 billion	-24.0%
8	11	Novellus	US	\$1.016 billion	\$1.304 billion	-24.7%
9	12	Hitachi	JP	\$982 million	\$1.304 billion	-24.7%
10	7	Advantest	JP	\$924 million	\$1.865 billion	-50.5%

Source: VLSI Research Inc.

Semiconductor equipment and IC suppliers: Company sample

Semiconductor equipment suppliers

Company	Q4 Sales	Q4 %change Q-1	Y2001 Sales	Y2001 %change Y-1
ASMI	\$91.2 m	3,20%	\$503 m	-40%
Applied Materials	\$1,000 m	-21%	\$6,455 m	-37,30%
Micronic Laser	\$31.76 m	7,50%	\$66.86 m	-0,70%
ESEC	\$12.55 m	-24%	\$111.3 m	-71%
Trikon	\$12 m	NA	\$97 m	-9%

Source: Yole Développement, February 2002

IC Suppliers

Company	Q4 Sales	Q4 %change Q-1	Y2001 Sales	Y2001 %change Y-1
Texas Instruments	\$1,790 m	-3%	\$6,780 m	-34%
ARM	\$56.7 m	7%	\$208.5 m	45%
Philips	\$818 m	5%	\$4,389 m	-25,30%

Source: Yole Développement, February 2002

Silicon wafer shipment rebound and grow at the end of 2001 but decline on the entire year

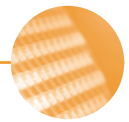
After first positive sign for the semiconductor materials business, silicon wafer shipments have showed some sequential growth after period of declines, said SEMI. Wafer shipments reached 5.7 billion cm² for Q4 of 2001, down 39% from the same period a year ago but up 7% from Q3 of 2001 to 5.3 billion cm².

For the year 2001, silicon wafer shipment total area drop 29% and revenues were down 31% from the year 2000. SEMI's CEO, Stanley T. Meyers said that "Silicon area shipments in 2001 declined to the lowest annual level from 1998". See details in charts :

Annual Silicon Industry

Worldwide Silicon Data	1996	1997	1998	1999	2000	2001
Area Shipments (Billion cm ²)	23,83	25,52	23,31	28,83	35,81	25,41
Revenues (\$B)	7.1	7.0	5.4	5.9	7.5	5.2

Source SEMI - www.semi.org



European and French semiconductor market

European semiconductor market declined 28,6% last year. This result is better than the worldwide decline of 32% down from year 2000.

French market declined 44% in 2001 with revenues estimated at EUR 3,8 billion, according to SITELESC. Compared to the worldwide market, French market suffered from the fall of telecom industries representing 33% of sales (compared to 44% in 2000). For automotive applications, sales in this segment representing 19%, up from year 2000 with only 8% of sales.

French semiconductor industries did not announce forecast for year 2002 because of uncertain activity with fab line closures and relocations which could have a negative impact on the trends.

www.sitelesc.fr

National fundings to support researches

● AIXTRON and the "Ministerium fuer Arbeit und Soziales, Qualifikation und Technologie des Landes Nordrhein-Westfalen" are to co-sponsor the "High Power Electronics with Group III Nitrides" project with EUR1m. The project is focused on high-frequency and high-power electronics based on gallium nitride and related compounds.

● Germany's ministry of business and technology (Bundesministerium fuer Wirtschaft und Technologie) is supporting NanoPierce Card Technologies' research (in co-operation with Elcos of Pfaffenhofen, Germany) into the assembly and bonding of LED arrays with funding of EUR100,000. The cooperation started at the end of 2000 and is set to last into 2003. The result would be area arrays comprising 100 or more LED dies on one substrate.

www.aixtron.com - www.nanopierce.com - www.elcos.de

Wired communications and wireless handset results

Semiconductor suppliers, serving wired communications applications, revenues were \$17.4 billion and isuppli corp. forecast a drop in revenues about 19.7% in 2002. Wired communications application are being pulled down by an additional 23% reduction in capital spending this year by global telecom carriers, which had cut their budget 21% in 2001. From 2003 to 2005 carrier-driven semiconductor revenues will grow globally at just 4% per year.

For wireless handset products, shipments declined by 3 to 5% in 2001. At the end of 2001, cell-phone networks worldwide had 900 subscribers. According to Strategy Analytics' report, the penetration of cellular phones in market worldwide will double from 15% at the end of last year to 30% to the end of 2006.

www.isuppli.com - www.strategyanalytics.com

Techno News

Products based on SiGe technologies consume too much

While silicon-germanium (SiGe) technologies promise to deliver high-speed communications chips, some unexpected power issues with this process could force IC suppliers back to traditional CMOS (executive from Applied Micro Circuits Corp. (AMCC)). Some communications-oriented devices, based on SiGe, consume too much power, especially in next-generation 40-gigabits-per-second networking applications.

AMCC declares that it will continue to use SiGe for the amplifier and other portions of the module. But to reduce the power consumption, the AMCC executive said the company is looking at traditional CMOS processes.

www.amcc.com

"Extatic, ASML's European a-tool development for EUVL"

It is the title of the technical paper co-authored by ASML, Carl Zeiss, Sagem, and Xenocs for the SPIE conference.

The paper is disclosing details on a new European consortium (called Extatic) that is developing NGL (Next Generation Lithography) tools and production systems based on extreme ultraviolet (EUV) technology.

The goal of the consortium is to demonstrate that EUVL is the lithography technology of choice for the 50-nm node and beyond, according to ASML.

ASML is also expected to become a "systems integrator" for a U.S.-led consortium that is developing a EUV tool. The Dutch company is expected to develop a commercial tool, built around the technology.

www.asml.com - www.sagem.com - www.xenocs.com
www.zeiss.com

Texas Instrument to use 0.09-micron for production within 2003

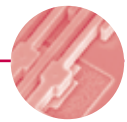
Texas Instrument announced that it could use a 0.09 micron logic process into production in the middle of 2003, to support up to nine layers of copper interconnect and will produce than 400 million transistors on a chip. The next TI's generation of CMOS logic process features transistors as small as 37 nm. The 0.09-micron process will allow TI to push operation frequencies to the multi-GHz range in its own digital signal processors (DSPs) and in UltraSparc RISC processors.

www.ti.com

Intel's transition to the 90nm

Intel is entering a new phase in fabrication technology characterisation as the sub- 0.10-micron. The reasons for this change are the volume production at the 90nm node at the end of 2003 and the announcement of the choice of Fab 14 in Ireland to lead the migration to the 90nm feature size under 2 years from now.

www.intel.com



EV Group announced the end of headquarter plant expansion

The Austrian group EVG, manufacturer of MEMS, LED, and semiconductor equipment wafer processing equipment, announced the completion of its second plant expansion within one year. Construction work provide significantly more production floor space at the

Austrian Headquar-ters. The new building includes a world-class production floor, additional clean room facilities, application and process qualification labs and an expanded warehouse. The company also maintains a second production plant near the Headquarters

containing a high-tech CNC mill center. The company has created more than 100 new jobs in R&D, manufacturing, and customer support at this location, demonstrating the continued growth of the company.

www.evgroup.com

Alliances & Mergers

MEMS collaboration accelerates time to market for optical components

The Swiss company Colibrys and the American Coventor announced a joint development and preferred manufacturing partnership agreements for the development of MEMS.

The partnership will focus, in a first time, on MEMS for optical communications, developing device building blocks that can applied across many optical applications.

The first common design and process technology platform will be steerable mirror arrays and opticalshutters.

www.colibrys.com

www.coventor.com

Techno news

ST's MEMS controller for hard disk drives

STMicroelectronics is marketing a first in MEMS: an integrated microelectromechanical device to help a disk drive stay on course and handle more densely packed data tracks.

ST's L6671 Rotational Accelerometer is a two-part chip that senses vibrations in

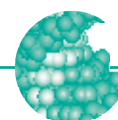
a spinning disk drive and sends electronic signals to the arm that moves the read/write head across the disk. Informed by real-time data, the heads stay more precisely positioned over the data track.

www.st.com

Discover the full range of
Yole Développement key
tools to make your decision



LYON • GRENOBLE • MUNICH • COPENHAGUEN



Gyros headquarters double in size

In Uppsala (Sweden), Gyros AB announced the extension of its laboratories for production, development and demonstrations. This decision is linked to the market interest growth for the unique technology platform of this company. According to Per Sjöberg, Executive Vice President Commercial Operations, this new organization will help Gyros AB to work closely with its clients and to integrate their applications ... With the centralization of facilities, Gyros will increase the quality of knowledge exchange between R&D and manufacturing units and so answer the to the shorten time to market.

www.gyros.com

Proedyne in Europe

The American company announced that they have founded a European subsidiary, in Germany (Martinsried). This unit will sell products and provide product support throughout Europe, Africa and the Middle East. Proedyne Europe will be managed by Mr Juergen Fehmer, who was previously general manager of a biotech start up of Anachem.

Proedyne (Connecticut, Windsor) manufactures lab equipment like gel electrophoresis machines and systems for PCR preparation. The company offers also services such as SNP scoring, gene cloning...

www.proedyne.com

New cleanroom for Micronit Microfluidic B.V

A new cleanroom has been opened by Micronit. This facility, class 1000, will be dedicated to the production of glass microfluidic devices.

This unit is a part of BTC Twente building.

www.micronit.com



Micronit opens cleanroom facilities

Alliances & Mergers

A distribution agreement between Genetix and Exiqon

Genetix, Ltd and Exiqon A/S have signed a distribution agreement regarding the worldwide commercialization of the Euray Immobilizer Microarray Slide and kits. This new product has been developed by the Danish company, Exiqon.

www.genetix.com ; www.exiqon.com

Automated proteomics patents license between GeneProt and OGS

The two companies, Oxford GlycoSciences Plc. And GeneProt, Inc. have signed an agreement on automated proteomics patents. This contract concerns US OGS' patents numbers 6064754 and 6278794 and their foreign equivalents. GeneProt is the first company to sign agreement on these patents. This is a seven year, non exclusive license which grants to GeneProt the freedom to operate under the patents licensed for the provision of proteomics services. For this contract, the American company will pay \$1 million in cash and equity and will make additional annual payments, which will vary according to the existence of granted patents in the USA , and others continents.

www.ogs.com ; www.geneprot.com

Licensing agreement between Asper Biotech Ltd and Orchid BioSciences, Inc.

The two companies have signed an agreement under which the American company Orchid has granted Asper Biotech a non exclusive license to Orchid's proprietary SNP-IT primer extension SNP scoring technology for use in a slide-based array format targeted to the research market. Under the terms of the agreement, Orchid will receive an upfront payment and royalties on future product sales.

www.asperbio.com . www.orchid.com

Diagnoswiss project granted by the European Community

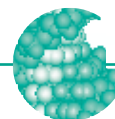
Diagnoswiss and its European partners has just been granted by the European Community. The aim of the project is to automatize and miniaturize separate tools for fast and high resolution protein separation. The project is called: "MicroproteoMicS".

www.diagnoswiss.com

Evaluation of Gyros new technology by cancer research organization

Gyros AB announced today the collaboration with an independent cancer research organization, the Ludwig Institute for Cancer Research. This agreement concerns the MALDI mass spectrometry technique used for protein identification. The mission will be managed by Professor Ulf Hellman, Member of the Ludwig Institute.

www.gyros.se



Qiagen expects an increase of its revenue in 2002

Qiagen, N.V. announced a growth of 30% (\$345 million) for 2002 revenue. The company explains its forecasts by the launch of new ranges of products and by the re-organization of its operations in four countries: USA (Maryland), Germany, Japan and Switzerland.

No trimming staff or transplanting existing employees has been announced. The company also announced the decrease of R&D spending to 12% of total revenues from 15% that analysts predict it spent in 2001.

Regarding sales and marketing costs, the budget will be cut from 22 % from 24% expected in 2001. General and administrative spending will be also reduced from 11% one year ago to 9%.

www.qiagen.com

News products

A complete range of plates to 1536 wells developed by Nunc A/S

Nunc A/S proposes a new range of black and white plates in a variety of surface treatments for applications within Cell Culture, Molecular Biology and Immunology. The plates are found in 96, 384 and 1536 well formats. Black and white plates are intended for fluorescence- and luminescence- based assays, respectively. Nunc A/S is developing and supplying laboratory plastic ware for use within molecular biology, cell culture, genomics and immunology. Headquarters are based in Denmark, and Nunc A/S has also other facilities in U.S.A., Germany and Japan.

www.nuncbrand.com



384 well amplification plates

New polymer microarray slides for Exiqon

A new polymer microarray slide for covalent coupling of amino-linked nucleic acids has been developed by Exiqon.

The slide is ready-to-spot and is optimized for gene expression microarrays and SNP detection. The covalently coated spotting and hybridization area provides simple printing and attachment of amino linked nucleic acids (using contact as well as non contact spotter systems). The slide requires no baking, blocking or crosslinking and has good signal to noise ratios and a long term stable surface.

www.exiqon.com



The new polymer microarray slide developed by Exiqon, the Danish company

Artus GmbH and GeneScan have developed a novel RNA amplification technique

In close collaboration, the two companies are working on a new solution for expression analyses. This kit is based on a technology distributed by GeneScan Europe AG in Germany, Austria, Switzerland ... The Array-Amp kit allows the amplification of minute quantities of mRNA. It is suitable for use in research in association with gene expression arrays and chips.

www.genescan.com



Southampton Photonics has Opened a fiber plant

The UK startup, Southampton Photonics (SPI) has opened its specialty optical fiber manufacturing facility at Hedge End, near Southampton, UK. The plant, which represents an investment of approximately EUR 11.5 million occupies part of the company's new 30,000 square foot premises and will primarily provide speciality fiber for use in its own products. SPI's core competencies include Fiber Bragg Grating design and fabrication, as well as amplifier and laser technology.

www.southamptonphotonics.com

Solus Micro Technologies Opens U.K. Facility

Solus Micro Technologies (California), a developer of tunable optical components for makers of DWDM equipment, announced it has opened a development facility in the United Kingdom. Located in Bracknell, about 20 miles from London, the new facility has a staff of five engineers who are focusing primarily on electronics integration of its Compliant MEMS (CMEMS) tunable optical components with Solus' customers. Solus Micro Technologies has developed Compliant MEMS, a new technology combining elastomers with MEMS technology. The Bracknell facility will allow Solus to further develop its CMEMS tunable optical components that can be used in a wide variety of applications. According to Solus, CMEMS is considerably more reliable and less expensive than traditional silicon-based MEMS.

www.solustech.com

Thales spins off optoelectronics firm

French electronics company Thales announced plans to spin off a company to market optical interconnects. Thales Research and Technology, a division of French electronics giant Thales (former Thomson group), plans to spin off a company to develop parallel optical interconnect modules for high-speed short-distance data communications. The unnamed company will launch its first products, transmitter and receiver modules operating at up to 2.5 Gbit/s per channel in April. Called D-Light, the modules are based on 850 nm VCSELs and PIN photodiodes and are suitable for board-to-board and intra-cabinet communications.

www.thalesgroup.com

ULM Photonics Opens a new manufacturing facility

Just after its commercial alliance with Schott Optovance, ULM Photonics, a supplier of flip-chip ready VCSEL arrays and 10 Gb/s VCSELs, has opened a new manufacturing facility in Ulm, Germany to meet and serve a growing VCSEL market. The facility is equipped with additional quality assurance equipment and a new Molecular Beam Epitaxy (MBE) system, a technique that grows VCSELs on gallium arsenide (GaAs) semiconductor wafers as single crystals and can also work on other materials like indium phosphide (InP). The new equipment will help ULM Photonics create more efficient VCSELs by even better controlling the growth of the crystal, thus meeting the demand of its growing customer base.

www.ulm-photonics.de

Hymite expands its R&D centre in Germany

The Danish-based optical component technologies firm Hymite ApS, headquartered in Copenhagen, Denmark, announced its expansion into Germany with the initiation of research and development activities in Berlin-Adlershof. The project, in cooperation with the Ferdinand-Braun-Institut für Hochfrequenztechnik, initiates opportunities for rapid growth within the optoelectronics field in Germany.

www.hymite.com

Kamelian opened a new III-V plant

The UK fiber optic component vendor Kamelian has opened a new plant at the Oxford Industrial Park for manufacturing III-V compound semiconductor devices, specially Indium Phosphide-based semiconductor optical amplifier components, for the global communication industry. Kamelian is specialised in the design and manufacture of advanced III-V photonic semiconductor optical amplifiers for next generation optical networks.

www.kamelian.com

A new Danish start up using exotic optical effects

The Danish startup Micro Managed Photons A/S (MMP) plans to develop integrated optical components that exploit some exotic optical effects in thin gold films on a glass substrate. The company was founded by a group of five researchers from Ålborg University and Research Centre COM at the Technical University of Denmark, an institute that has spun out Ionas A/S and Crystal Fibre A/S, which makes photonic crystal fiber. MMP is also based on photonic crystals, periodic microstructures. These materials hold the promise of being able to guide light around sharp bends with no losses, thus offering a way of shrinking optical integrated circuits. The researchers have seed funding of EUR 4.3 million to develop their ideas further. The cash was provided by Danish venture funds Wise Venture and CAT Seed. MMP doesn't expect to have any product prototypes for three years.

No website



Multi Source Agreement for Compact EDFAs

Agere Systems, Alcatel Optronics, and Nortel Networks announced a multi-source agreement (MSA) for compact Erbium Doped Fiber Amplifiers (EDFAs) used in optical networking systems.

The agreement establishes a standard that specifies uniformity for product package outlines, pin function definitions, and optical and electrical characteristics. Agere, Alcatel Optronics, and Nortel Networks will independently develop and market compact EDFAs based on this standard, ensuring that optical systems manufacturers have a choice among compatible sources.

Lion Photonix and OnStream MST combine their efforts

OnStream MST and Lion Photonix Technologies BV have entered into an agreement to combine their expertise in the area of microsystems fabrication in order to provide OEM customers with the best service possible. Lion Photonix mission is to provide OEM customers with high added value components and (sub)systems, based on micro system technology, for their next generation products. Lion Photonix is strongly linked to the University of Twente, which is world famous for its excellent research in the fields of MOEMS/MEMS/MST. OnStream MST acts as a foundry to other companies producing advanced thin film based products for a wide area of industries.

www.lionphotonix.nl - www.onstreammst.com

AIFOtec becomes Finisar Europe

Finisar Corp. (California), a supplier of gigabit fiber optic solutions for high-speed data networks, has acquired the assets of AIFOtec GmbH (Munich, Germany), for approximately EUR 2.6 million. AIFOtec was established in June 2000 to develop optical subsystems for telecom applications using a unique process for the assembly and testing of optical modules. The purchase price includes the acquisition of capital equipment, inventory and intellectual property. AIFOtec, which declared itself insolvent at the end of last year, was pinning its hopes on the fiber-grating laser, a new type of emitter that uses a tapered active region to maximize coupling efficiency into a fiber without the need for bulk optics. Finisar has agreed to hire 30 former AIFOtec employees, and says the deal will enable it to strengthen its sales and marketing presence in Europe. The new company will be known as Finisar Europe.

www.finisar.com

Business news

Terahertz Photonics Ltd secured EUR 9.8 million

Terahertz Photonics Ltd, the Scottish opto-electronics company, has secured second round funding of EUR 9.8 million (€6million) to develop its PLC (Planar Lightwave Circuits) platform technology. The EUR 9.8m package, from venture capital investors Add Partners and Scottish Equity Partners, will allow Terahertz to scale its unique processes for the production of Planar Lightwave Circuits.

www.terahertz-photonics.com

Highwave Raised EUR 32 million

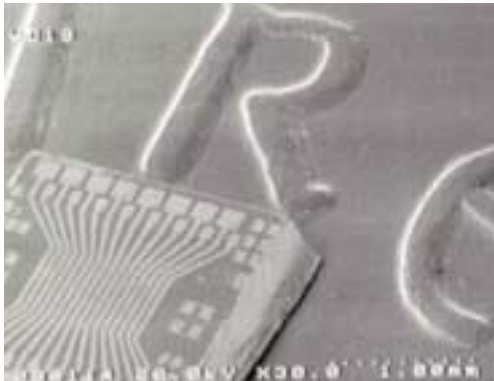
Highwave Optical technologies has recently announced (end of January) that shareholders approved a EUR 32 million private round of financing, after an extraordinary general meeting held in Lanion (France). Investors include Newbury Ventures for EUR 11 million, Technoventures for EUR 11 million and DB Capital Venture Partners for EUR 9.95 million. Funding is expected to occur rapidly and will be used to fund market penetration and product development in the company's core businesses as well as to meet ongoing working capital requirements.

Despite this announcement the Highwave shares has continued to fall and has declined at their lowest level (below EUR 2.5) in the middle of February.

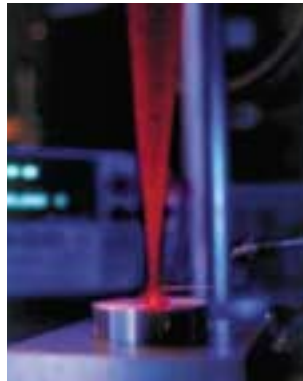
www.highwave-tech.com



The Irish visible VCSELS start up reached EUR 6.5m of funding



VCSELS on Coin



VCSEL under test

FireComms, a firm developing technologies to improve high-speed data networking, has announced new funding that brings its total investment to EUR 6.5 million. The new funding announced from Enterprise Ireland is around EUR 750,000 bringing the company's total funding to EUR 6.5 million over two years. Other investors include Mentor Capital. The Cork-based company focuses its research on the area of photonic communications including the development of high-performance lasers that use light to carry data at very high speeds over plastic optical fibre. FireComms spun out of the National Microelectronics Research Centre in Cork.

www.firecomms.com/

Bookham's 2001 report

Bookham Technology announced results for the fourth quarter and year ended 31 December 2001. Revenues in the fourth quarter were 2.1 million pounds sterling (EUR 3.43 million) down 82% from the fourth quarter of 2000, down 12% sequentially from the third quarter. Total revenues for 2001 were 21.9 million pounds (EUR 35.8 million), down 17% from 2000.

In December, the company signed a definitive agreement to acquire Marconi's optical components business (MOC) in an all-share offer, representing approximately 10% of the company's outstanding share capital. According to Giorgio Anania, President and CEO, the

supply agreement entered into with Marconi enhances sales visibility in this difficult time for the market. This combination should make Bookham ready for profitable upturn when market growth returns.

www.bookham.com

Alcatel Optronics's 2001 report

Alcatel Optronics reported fourth quarter and full year results with sales for the fourth quarter down by 52.2% to EUR 69.9 million over the same period last year. Income from operations was

registered at EUR 98.5 million. Full year 2001 sales increased by 8.8% to EUR 470.4 million over the previous year. Income from operations amounted to EUR 58.6 million.

According to Jean-Christophe Giroux, CEO of Alcatel Optronics, 2001 has been a unique year for Alcatel Optronics, which resisted the turmoil of the optics crisis better than the industry average, and posted net growth over 2000. They also consolidated their product offering and their geographical presence, in line with their strategy to emerge as one of the few global players in this market. However, Q4 showed a steep deceleration of business conditions, mainly pertaining to a depressed submarine environment.

www.alcatel.com/telecom/optronics

Techno news

OpsiTech launches its first Mux/demux

OpsiTech SA (France), a supplier of high-performance integrated optical components and modules for optical networking systems, announced the launch of its competitive Multiplexer/DeMultiplexer and interleaver families. These first product lines based on an advanced silica-on-silicon AWG technology offer the largest range of dense channel spacing passive optical components ideal for flexible, scalable and cost-effective DWDM optical transmissions. The Mux/DeMux series include high-channel-count 200GHz, 100GHz and 50GHz Mux/Demux with low insertion loss, low crosstalk and superior PMD et PDL performances. The components are available in channel count from 8 to 40.

www.opsitech.com

A full range of key tools to make your decision



FabEurope, the alternative to the semiconductor market

144 european plants for MEMS, Integrated optics, Power devices and Semiconductors wafers



Fabopto, the current collapse of the fiber-optics business...

What next ?

More than 90 European profiles of manufacturers and new startups



BioFab, from technologies to products and services

More than 130 worldwide companies profiles in the fields of Biochips, Microfluidic components and Biosensors.

DataFab Europe, the exhaustive database on European fabs

More than 300 fabs in Europe including Israeli and East Europeans activities for MEMS, Ics, Integrated optics, wafers & wafers reclaim



Get up-to date information with the magazine *Micronews*

For EUR 500, 12 issues of the Yole Développement magazine per year



YOLE DÉVELOPPEMENT

www.yole.fr