CAMERAS FOR MICROSCOPY AND NEXT-GENERATION SEQUENCING 2019

CAMERAS FOR MICROSCOPY AND NEXT-GENERATION SEQUENCING 2019

Market & Technology Report - November 2019

Disposable image sensors: a revolution for microscopy and next-generation sequencing.

KEY FEATURES

- Historical perspective and synergies with other markets
- Market data and forecasts at system, camera, and image sensor level, by segment (optical microscopy, transmission electron microscopy (TEM), point-of-care microscopy, NGS) and technology(CCD, CMOS, sCMOS, TDI), in value (US$) and volume (units)
- Technology penetration and market trends, per segment
- Supply chain analysis with market share, at system level and camera level
- Technology landscape, evolutions, and roadmaps

MOVING TOWARD DISPOSABLE IMAGE SENSORS FOR NEXT-GENERATION SEQUENCING AND POINT-OF-CARE MICROSCOPY

Why did we choose to discuss the technology evolutions in the microscopy and next-generation sequencing (NGS) market? Because this market is undergoing enormous technological changes that are opening new market opportunities for the camera image sensors industry.

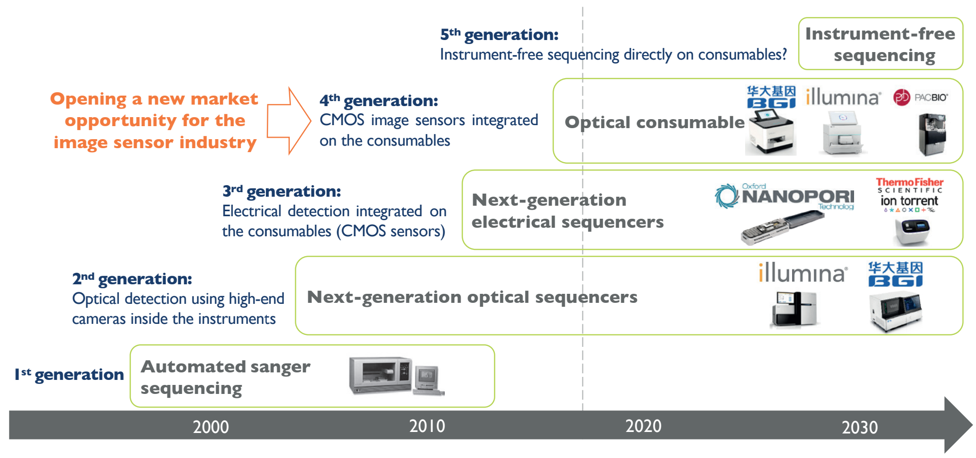
Cameras are key elements in the microscopy and NGS space. Indeed, today most microscopes are digital microscopes that use at least one (and sometimes more) cameras. The main trend in optical microscopy is to attain higher resolution, as well as faster acquisition and higher sensitivity for quicker and better diagnostics, and real-time imaging of living organisms. CCD is the main image sensor technology used today, but sCMOS is gaining market share due to an increasing need for high-speed image acquisition. However, this trend towards better imaging is counterbalanced by another trend – one that leans towards portability and use of microscopy at the point of care. These systems are sleeker and cheaper, and deliver microscopy results directly to the caregiver.

This is also the case for NGS. Two very different trends are discernable: one towards higher throughput with very expensive, bulky equipment; and another that is lower throughput, with cheaper equipment offering lower footprint and wide availability. Take for example Illumina, the optical NGS market leader with more than 80% market share: Illumina has a diverse product portfolio of very high-end systems, but recently launched a more affordable, lower-throughput system - the iSeq100. This follows the trend towards commoditization of NGS. The iSeq100 does not integrate optical systems in the instrument anymore, but uses a disposable image sensor directly inside the flow cell, which is a game-changer in the NGS market! Indeed, this makes the instrument much more affordable, enabling Illumina to place more systems and therefore sell more consumables, which they can make cheaper because of increased volumes. This trend is also seen with BGI, Illumina's Chinese competitor, which recently announced a benchtop NGS system based on CMOS chips.

A broader trend is artificial intelligence (AI), which is upending the microscopy hardware ecosystem because deep learning could enable not only ultra-high resolution at lower hardware cost, but also automation.

This report describes the technology evolutions in the microscopy and NGS field, and the effect these developments will have on the market and ecosystem.

21st century technology roadmap for next-generation sequencing

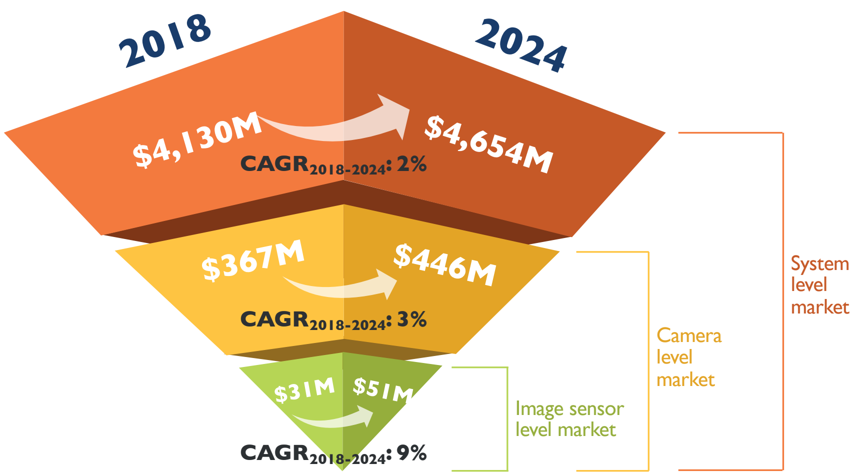


(Yole Développement, November 2019)

THOUGH EACH MARKET SEGMENT HAS DIFFERENT DYNAMICS, THE OVERALL IMAGE SENSOR MARKET FOR MICROSCOPY AND NGS WILL SHOW IMPRESSIVE GROWTH, WITH A CAGR$_{2018-2024}$ OF 18% (IN VOLUME)

At system level, the global microscopy and NGS market represented \$4.1B in 2018. The biggest market segment was optical microscopy (\$2.5B in 2018). Cameras for microscopy and NGS represented \$367M, and is expected to reach \$446M in 2024 at a CAGR of 3.3%. Meanwhile, image sensors for microscopy and NGS achieved \$31M in 2018. This rather small market should enjoy rapid growth (CAGR$_{2018-2024}$ in value: 9%, and in volume: 18%), an improvement driven mostly by the arrival of image sensors-on-consumables in NGS.

Cameras for microscopy and next-generation sequencing market: 2018 - 2024 forecast



(Yole Développement, November 2019)

The image sensor market for microscopy is divided into four different categories, each having a different maturity level. For example, optical and transmission electron microscopy is a mature market with a low CAGR. Point-of-care microscopy was a very small, emerging market in 2018, but is poised for fast growth. Image sensors embedded in cameras for high-end NGS systems is a declining market due to the trend toward cheaper systems with less cameras. The image sensors market for NGS consumables is booming. This new business model implies the creation of products where the image sensor is disposable, equating to a very low average selling price (compared to the image sensors previously used in microscopy and NGS systems) and very high volume.

This report describes the 2018 market and offers forecasts for the period 2018 - 2024 at system, camera, and image sensor level. The hypothesis behind these forecasts and the roadmaps leading to these assumptions are also described.

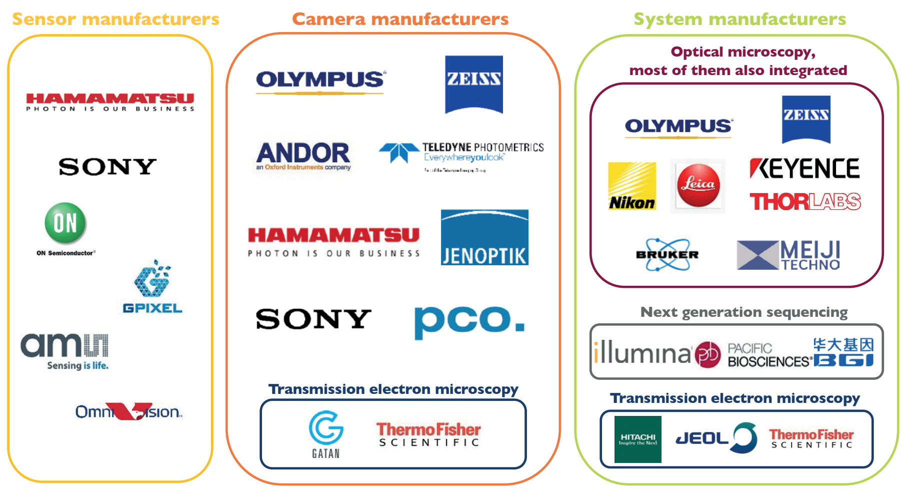
A STRUCTURED ECOSYSTEM WITH COLLABORATIONS AT DIFFERENT LEVELS OF THE SUPPLY CHAIN BETWEEN IMAGE SENSOR, CAMERA, AND SYSTEM-LEVEL PLAYERS

The \$1,000 genome barrier was broken about five years ago, and we are now heading towards the \$100 genome thanks to higher throughput and faster equipment. The ultimate goal is to reach as low as \$10 per genome, and semiconductor technologies are key enablers for NGS affordability. The race towards sequencing inexpensiveness and commoditization is a tremendous opportunity for the semiconductor industry, because volumes will explode.

Specific to ecosystem, microscopy and NGS is a structured market with a few key players. At system level, the major players in optical microscopy are Olympus, Nikon, Zeiss, and Leica Microsystems. Combined, they hold more than 80% of optical microscopy market share. The transmission electron microscopy (TEM) main players are Jeol, Thermo Fisher Scientific, and Hitachi High-Technologies, and the optical NGS main players are Illumina, Pacific Biosciences, and BGI. At camera level, the market is also well structured, with integrated players like Olympus and Zeiss, and specialized camera players such as Teledyne, Sony, Hamamatsu, and Andor. In the TEM market the main camera players are Gatan and Thermo Fisher, which is integrated. The key image sensor providers for microscopy and NGS are Sony, ON Semiconductor, Hamamatsu, Gpixel, Omnivision, and ams.

Recent mergers and acquisitions of microscope manufacturers are aimed at finding expertise in the field of data management and software (ex: Zeiss acquiring gom in 2019; Olympus acquiring Image Stream Medical in 2017). This trends follows the parallel development of deep learning algorithms in this field.

Cameras for microscopy and next-generation sequencing: players ecosystem*



Non-exhaustive list of companies

(Yole Développement, November 2019)

In this report, Yole Développement's analysts identify the key players leading the market, analyze the supply chain, and discuss the technology's evolution and its influence on ecosystem changes.

REPORT OBJECTIVES

- Provide an overview of the microscopy and NGS market at system, camera, and image sensor level, along with an understanding of established and upcoming players, their technologies (and the advantages/drawbacks), and how these will evolve in the coming years
- Present market data and forecasts at system, camera, and image sensor level, by segment (optical microscopy, transmission electron microscopy, point-of-care microscopy, and NGS), in value ($) and volume (units)
- Identify where the opportunities lie for different players along the supply chain, from materials suppliers and foundries to camera manufacturers and system developers
- Discuss the different technologies used today (CCD, CMOS, sCMOS, TDI), as well as technological trends like artificial intelligence

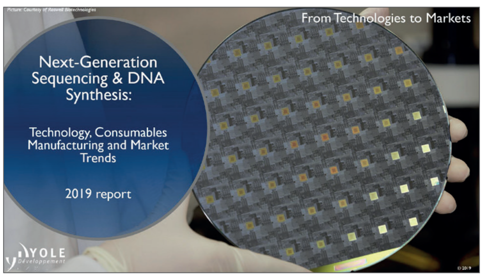
COMPANIES CITED IN THE REPORT (non exhaustive list)

Accu-scope, Agilent Technologies, ams, Amscope, amt, Andor, Anvajo, Artray, Aven, Basler, Baumer, Bentham, BGI, Bio-Rad, Bruker, CEA, Cellmic, Centrillion Technologies, Cnoptec, Cygnus, Dage-mti,Danaher, Depixus, Dino-lite, Direct Electron, Direct Genomics, Emsis, Episenses, Euromex, Fein Optic, Fimm, Flir, Gatan, Genapsys, Genia, Gpixel, Greateyes, Hamamatsu, Hirox, Hitachi High-Technologies, Horiba, icfo, Illumina, Imec, imt, InSilixa, Intellectual Ventures, Invenios, InView, Jenoptik, Jeol, Kappa, Keyence, Kramer Scientific, Labomed, Labsmith, Lasergen, Leica Microsystems, Lissview, Matrix Vision, Meiji Techno, Micralyne, Micronit, MicroscopeIT, Midiagnostics, Mitutoyo, Motic, Nabsys, Nanotronics, Nikon, Novel Optics, Nowdiagnostics, Olympus, Omano, Omax Microscope, Omnivision, ON Semiconductor, Optika, Oxford Nanopore, Pacific Biosciences, Park Systems, pax-it, PCO, Phenomic.ai, Phograin, Photon Focus, Photonis, Photron, Pixelink, Powerchip, Qiagen, QuantuMDx, Raptor, Rigaku, Roswell Biotechnologies, SeqLL, Sight,Silex Microsystems, Sony, Spot Imaging, Stanford Computer Optics, Sunny Optical Technology, Swift, Teledyne, Thermo Fisher, Thorlabs, TSMC, TVIPS, Witec, Ximea, Zarbeco, Zeiss, and many more…

TABLE OF CONTENTS (complete content on i-Micronews.com)

RELATED REPORTS AND MONITORS

Benefit from our Bundle & Annual Subscription offers and access our analyses at the best available price and with great advantages



- Next Generation Sequencing & DNA Synthesis: Technology, Consumables Manufacturing and Market Trends 2019
- Status of the CMOS Image Sensor Industry 2018
- CMOS Image Sensor Service – Imaging Research
- Point-of-Need Testing: Application of Microfluidic Technologies

Find all our reports on **www.i-micronews.com**

AUTHORS

As a Technology & Market Analyst, Medical & Industrial Imaging, **Marjorie Villien,** PhD., is member of the Photonics & Sensing activities group at Yole Développement (Yole). Marjorie contributes regularly to the development of imaging projects with a dedicated collection of market & technology reports as well as custom consulting services in the medical and industrial fields. She regularly meets with leading imaging companies to identify and understand technology issues, analyze market evolution and ensure the smart combination of technical innovation and industrial application. Marjorie Villien graduated from Grenoble INP (France) and holds a PhD. in physics & medical imaging.

As a Technology & Market Analyst, Artificial Intelligence (AI) & Imaging Technologies, **Loic Michoud** is involved in the development of technology & market reports at Yole Développement (Yole), within the Photonics & Sensing team. Loic studies and investigates innovative AI technologies for imaging applications and related markets. Software and image processing are part of his technical background. Loic Michoud is currently completing a bachelor degree at CPE Lyon (France). In parallel, he is studying a dedicated program focused on innovation management at EM Lyon Business School (France).

Sébastien Clerc is a Technology & Market Analyst in Microfluidics, Sensing & Actuating at Yole Développement (Yole). As part of the Photonics & Sensing team, Sébastien has authored a collection of market and technology reports dedicated to microfluidics and other micro-devices for the medical market segment mainly. At the same time, he is involved in custom projects such as strategic marketing, technology scouting and technology evaluation to help academic and industrial players in their innovation processes. Sébastien Clerc graduated from Grenoble Institute of Technology (Grenoble INP - Grenoble, France) with a Master's degree in Biomedical Technologies. He then completed his academic studies with a Master's degree in Innovation and Technology Management in the same institute.

ORDER FORM

Cameras for Microscopy and Next-Generation Sequencing 2019

BILL TO

Name (Mr/Ms/Dr/Pr):

Job Title:

Company:

Address:

City:

State:

Postcode/Zip:

Country*:

*VAT ID Number for EU members:

Tel:

Email:

Date:

PRODUCT ORDER - Ref YD19049

Please enter my order for above named report:

☐ **One user license*: Euro 5,990**

☐ **Multi user license: Euro 6,490**

- The report will be ready for delivery from November 18, 2019
- For price in dollars, please use the day's exchange rate. All reports are delivered electronically at payment reception. For French customers, add 20% for VAT

I hereby accept Yole Développement's Terms and Conditions of Sale(1)

Signature:

One user license means only one person at the company can use the report.

PAYMENT

BY CREDIT CARD

◯ Visa ◯ Mastercard ◯ Amex

Name of the Card Holder:

Credit Card Number:

Card Verification Value (3 digits except AMEX: 4 digits):

Expiration date: /

BY BANK TRANSFER

BANK INFO: HSBC, 1 place de la Bourse,
F-69002 Lyon, France,
Bank code: 30056, Branch code: 00170
Account No: 0170 200 1565 87,
SWIFT or BIC code: CCFRFRPP,
IBAN: FR76 3005 6001 7001 7020 0156 587

RETURN ORDER BY

- MAIL: YOLE DÉVELOPPEMENT, Le Quartz, 75 Cours Emile Zola, 69100 Villeurbanne/Lyon - France

SALES CONTACTS

- **Western US & Canada - Steve Laferriere:**
  + 1 310 600-8267 – laferriere@yole.fr
- **Eastern US & Canada - Chris Youman:**
  +1 919 607 9839 – chris.youman@yole.fr
- **Europe & RoW - Lizzie Levenez:**
  + 49 15 123 544 182 – levenez@yole.fr
- **Japan & Rest of Asia - Takashi Onozawa:**
  +81-80-4371-4887 – onozawa@yole.fr
- **Greater China - Mavis Wang:**
  +886 979 336 809 – wang@yole.fr
- **Korea - Peter OK:**
  +82 10 4089 0233 – peter.ok@yole.fr
- **Specific inquiries: +33 472 830 180** – info@yole.fr

(1) Our Terms and Conditions of Sale are available at ***www.yole.fr/Terms_and_Conditions_of_Sale.aspx***
The present document is valid 24 months after its publishing date: November 6, 2019

SHIPPING CONTACT

First Name: Last Name:

Email: Phone:

ABOUT YOLE DEVELOPPEMENT

Founded in 1998, Yole Développement (Yole) has grown to become a group of companies providing marketing, technology and strategy consulting, media and corporate finance services, reverse engineering and reverse costing services and well as IP and patent analysis. With a strong focus on emerging applications using silicon and/or micro manufacturing, the Yole group of companies has expanded to include more than 120 collaborators worldwide covering MEMS and image sensors, Compound semiconductors, RF Electronics, Solid-state lighting, Displays, Software, Optoelectronics, Microfluidics & Medical, Advanced Packaging, Manufacturing, Power Electronics, Batteries & Energy Management and Memory.
The "More than Moore" market research, technology and strategy consulting company Yole Développement, along with its partners System Plus Consulting, PISEO, KnowMade and Blumorpho, supports industrial companies, investors and R&D organizations worldwide to help them understand markets and follow technology trends to grow their business.

CONSULTING AND ANALYSIS

- Market data & research, marketing analysis
- Technology analysis
- Strategy consulting
- Reverse engineering & costing
- Patent analysis
- Design and characterization of innovative optical systems
- Financial services (due diligence, M&A with our partner)

More information on www.yole.fr

MEDIA & EVENTS

- i-Micronews.com website, application & related e-newsletter
- Communication & webcast services
- Events: TechDays, forums…

More information on www.i-Micronews.com

REPORTS

- Market & technology reports
- Patent investigation and patent infringement risk analysis
- Structure, process and cost analysis and teardowns
- Cost simulation tool

More information on www.i-micronews.com/reports

CONTACTS

For more information about :

- Consulting & Financial Services: Jean-Christophe Eloy (eloy@yole.fr)
- Reports & Monitors: David Jourdan (jourdan@yole.fr) & Fayçal Khamassi (khamassi@yole.fr)
- Marketing & Communication: Camille Veyrier (veyrier@yole.fr)
- Public Relations: Sandrine Leroy (leroy@yole.fr)

TERMS AND CONDITIONS OF SALES

Definitions: "Acceptance": Action by which the Buyer accepts the terms and conditions of sale in their entirety. It is done by signing the purchase order which mentions "I hereby accept Yole Développement's Terms and Conditions of Sale".

"Buyer": Any business user (i.e. any person acting in the course of its business activities, for its business needs) entering into the following general conditions to the exclusion of consumers acting in their personal interests.

"Contracting Parties" or "Parties": The Seller on one hand and the Buyer on the other hand.

"Intellectual Property Rights" ("IPR") means any rights held by the Seller in its Products, including any patents, trademarks, registered models, designs, copyrights, inventions, commercial secrets and know-how, technical information, company or trading names and any other intellectual property rights or similar in any part of the world, notwithstanding the fact that they have been registered or not and including any pending registration of one of the above mentioned rights.

"Products": Depending on the purchase order, reports or monitors on MEMS, Imaging, SSL, Advanced Packaging, MedTech, Power Electronics and more, can be bought either on a unit basis or as a bundled offer (i.e. subscription for a period of 12 calendar months).

"Report": Reports are established in PowerPoint and delivered in a PDF format with an additional Excel file. 30 min of Q&A session with an analyst/author can be included for all purchased reports (except the ones bought in one user license). More time can be allocated on a fee basis.

"License": For the reports 3 different licenses are proposed. The buyer has to choose one license type:

- Single user license: one person at the company can use the report. Sharing is strictly forbidden.
- Multi-user license: the report can be accessed by an unlimited number of users within the company, but only in the country of the primary user. Subsidiaries and Joint-Ventures are excluded.
- Corporate license: the report can be used by an unlimited number of users within the company, but only in the country of the primary user. Subsidiaries are included, while Joint-Ventures are excluded.

"Monitor": Monitors are established and delivered in Excel. An additional PDF can also join it. Q&A with an Analyst is possible for each monitor with a maximum limit of 100h/year. Frequency of the release varies according to the monitor or service.

"Seller": Based in Villeurbanne (France, headquarters) Yole Développement provides marketing, technology and strategy consulting, media and corporate finance services, reverse engineering/costing services as well as IP and patent analysis. With more than 70 market analysts, Yole Développement works worldwide with the key industrial companies, R&D institutes and investors to help them understand the market and technology trends.

1. SCOPE

1.1 The Contracting Parties undertake to observe the following general conditions when agreed by the Buyer and the Seller. ANY ADDITIONAL, DIFFERENT, OR CONFLICTING TERMS AND CONDITIONS IN ANY OTHER DOCUMENTS ISSUED BY THE BUYER AT ANY TIME ARE HEREBY OBJECTED TO BY THE SELLER, SHALL BE WHOLLY INAPPLICABLE TO ANY SALE MADE HEREUNDER AND SHALL NOT BE BINDING IN ANY WAY ON THE SELLER.

1.2 This agreement becomes valid and enforceable between the Contracting Parties after clear and non-equivocal consent by any duly authorized person representing the Buyer. For these purposes, the Buyer accepts these conditions of sales when signing the purchase order which mentions "I hereby accept Yole Développement's Terms and Conditions of Sale". This results in acceptance by the Buyer.

1.3 Orders are deemed to be accepted only upon written acceptance and confirmation by the Seller, within [7 days] from the date of order, to be sent either by email or to the Buyer's address. In the absence of any confirmation in writing, orders shall be deemed to have been accepted.

2. MAILING OF THE PRODUCTS

2.1 Products are sent by email to the Buyer:

- Within a few days from the order for Products already released and paid; or
- Within a reasonable time for Products ordered prior to their effective release. In this case, the Seller shall use its best endeavours to inform the Buyer of an indicative release date and the evolution of the work in progress.

2.2 The Seller shall by no means be responsible for any delay in respect of article 2.1 above, and including in cases where a new event or access to new contradictory information would require for the analyst extra time to compute or compare the data in order to enable the Seller to deliver a high quality Products.

2.3 The mailing of the Product will occur only upon payment by the Buyer, in accordance with the conditions contained in article 3.

2.4. The mailing is operated through electronic means either by email via the sales department or automatically online via an email/password. If the Product's electronic delivery format is defective, the Seller undertakes to replace it at no charge to the Buyer provided that it is informed of the defective formatting within 90 days from the date of the original download or receipt of the Product.

2.5 The person receiving the Products on behalf of the Buyer shall immediately verify the quality of the Products and their conformity to the order. Any claim for apparent defects or for non-conformity shall be sent in writing to the Seller within 8 days of receipt of the Products. For this purpose, the Buyer agrees to produce sufficient evidence of such defects.

2.6 No return of Products shall be accepted without prior information to the Seller, even in case of delayed delivery. Any Product returned to the Seller without providing prior information to the Seller as required under article 2.5 shall remain at the Buyer's risk.

3. PRICE, INVOICING AND PAYMENT

3.1 Prices are given in the orders corresponding to each Product sold on a unit basis or corresponding to annual subscriptions. They are expressed to be inclusive of all taxes (except for France where VAT will be added). The prices are re-evaluated from time to time. The effective price is deemed to be the one applicable at the time of the order.

3.2 Payments due by the Buyer shall be sent by cheque payable to Yole Développement, credit card or by electronic transfer to the following account:
HSBC, 1 place de la Bourse 69002 Lyon France
Bank code: 30056
Branch code: 00170
Account n°: 0170 200 1565 87
BIC or SWIFT code: CCFRFRPP
IBAN: FR76 3005 6001 7001 7020 0156 587
To ensure the payments, the Seller reserves the right to request down payments from the Buyer. In this case, the need of down payments will be mentioned on the order.

3.3 Payment is due by the Buyer to the Seller within 30 days from invoice date, except in the case of a particular written agreement. If the Buyer fails to pay within this time and fails to contact the Seller, the latter shall be entitled to invoice interest in arrears based on the annual rate Refi of the "BCE" + 7 points, in accordance with article L. 441-6 of the French Commercial Code. Our publications (report, database, tool...) are delivered only after reception of the payment.

3.4 In the event of termination of the contract, or of misconduct, during the contract, the Seller will have the right to invoice at the stage in progress, and to take legal action for damages.

4. LIABILITIES

4.1 The Buyer or any other individual or legal person acting on its behalf, being a business user buying the Products for its business activities, shall be solely responsible for choosing the Products and for the use and interpretations he makes of the documents it purchases, of the results he obtains, and of the advice and acts it deduces thereof.

4.2 The Seller shall only be liable for (i) direct and (ii) foreseeable pecuniary loss, caused by the Products or arising from a material breach of this agreement.

4.3 In no event shall the Seller be liable for:
a) Damages of any kind, including without limitation, incidental or consequential damages (including, but not limited to, damages for loss of profits, business interruption and loss of programs or information) arising out of the use of or inability to use the Seller's website or the Products, or any information provided on the website, or in the Products;
b) Any claim attributable to errors, omissions or other inaccuracies in the Product or interpretations thereof.

4.4 All the information contained in the Products has been obtained from sources believed to be reliable. The Seller does not warrant the accuracy, completeness adequacy or reliability of such information, which cannot be guaranteed to be free from errors.

4.5 All the Products that the Seller sells may, upon prior notice to the Buyer from time to time be modified by or substituted with similar Products meeting the needs of the Buyer. This modification shall not lead to the liability of the Seller, provided that the Seller ensures the substituted Product is similar to the Product initially ordered.

4.6 In the case where, after inspection, it is acknowledged that the Products contain defects, the Seller undertakes to replace the defective products as far as the supplies allow and without indemnities or compensation of any kind for labour costs, delays, loss caused or any other reason. The replacement is guaranteed for a maximum of two months starting from the delivery date. Any replacement is excluded for any event as set out in article 5 below.

4.7 The deadlines that the Seller is asked to state for the mailing of the Products are given for information only and are not guaranteed. If such deadlines are not met, it shall not lead to any damages or cancellation of the orders, except for non-acceptable delays exceeding [3] months from the stated deadline, without information from the Seller. In such case only, the Buyer shall be entitled to ask for a reimbursement of its first down payment to the exclusion of any further damages.

4.8 The Seller does not make any warranties, express or implied, including, without limitation, those of sale ability and fitness for a particular purpose, with respect to the Products. Although the Seller shall take reasonable steps to screen Products for infection of viruses, worms, Trojan horses or other codes containing contaminating or destructive properties before making the Products available, the Seller cannot guarantee that any Product will be free from infection.

5. FORCE MAJEURE

The Seller shall not be liable for any delay in performance directly or indirectly caused by or resulting from acts of nature, fire, flood, accident, riot, war, government intervention, embargoes, strikes, labour difficulties, equipment failure, late deliveries by suppliers or other difficulties which are beyond the control, and not the fault of the Seller.

6. PROTECTION OF THE SELLER'S IPR

6.1 All the IPR attached to the Products are and remain the property of the Seller and are protected under French and international copyright law and conventions.

6.2 The Buyer agreed not to disclose, copy, reproduce, redistribute, resell or publish the Product, or any part of it to any other party other than employees of its company (only in the country of the primary user). The Buyer shall have the right to use the Products solely for its own internal information purposes. In particular, the Buyer shall therefore not use the Product for purposes such as:

- Information storage and retrieval systems;
- Recordings and re-transmittals over any network (including any local area network);
- Use in any timesharing, service bureau, bulletin board or similar arrangement or public display;
- Posting any Product to any other online service (including bulletin boards or the Internet);
- Licensing, leasing, selling, offering for sale or assigning the Product.

6.3 If the Buyer would like to use data coming from the Products for presentations, press announcements and any other projects, the Buyer needs to contact Yole Développement's Public Relations Director (info@yole.fr) to get an official authorization and verify data are up to date. In return the Seller will make sure to provide up-to-date data under a suitable public format.

6.4 The Buyer shall be solely responsible towards the Seller of all infringements of this obligation, whether this infringement comes from its employees or any person to whom the Buyer has sent the Products and shall personally take care of any related proceedings, and the Buyer shall bear related financial consequences in their entirety.

6.5 The Buyer shall define within its company a contact point for the needs of the contract. This person will be the recipient of each new report. This person shall also be responsible for respect of the copyrights and will guaranty that the Products are not disseminated out of the company. In the context of Bundle and Annual Subscriptions, the contact person shall decide who within the Buyer, shall be entitled to receive the protected link that will allow the Buyer to access the Products.

6.6 Please note that whether in Bundles or Annual Subscription, all unselected reports will be cancelled and lost after the 12 month validity period of the contract.

6.7 As a matter of fact the investor of a company, external consultants, the joint venture done with a third party, and so on cannot access the report and should pay a full license price.

7. TERMINATION

7.1 If the Buyer cancels the order in whole or in part or postpones the date of mailing, the Buyer shall indemnify the Seller for the entire costs that have been incurred as at the date of notification by the Buyer of such delay or cancellation. This may also apply for any other direct or indirect consequential loss that may be borne by the Seller, following this decision.

7.2 In the event of breach by one Party under these conditions or the order, the non-breaching Party may send a notification to the other by recorded delivery letter upon which, after a period of thirty (30) days without solving the problem, the non-breaching Party shall be entitled to terminate all the pending orders, without being liable for any compensation.

8. MISCELLANEOUS

All the provisions of these Terms and Conditions are for the benefit of the Seller itself, but also for its licensors, employees and agents. Each of them is entitled to assert and enforce those provisions against the Buyer.
Any notices under these Terms and Conditions shall be given in writing. They shall be effective upon receipt by the other Party.
The Seller may, from time to time, update these Terms and Conditions and the Buyer, is deemed to have accepted the latest version of these terms and conditions, provided they have been communicated to him in due time.

9. GOVERNING LAW AND JURISDICTION

9.1 Any dispute arising out or linked to these Terms and Conditions or to any contract/orders entered into in application of these Terms and Conditions shall be settled by the French Commercial Courts of Lyon, which shall have exclusive jurisdiction upon such issues.

9.2 French law shall govern the relation between the Buyer and the Seller, in accordance with these Terms and Conditions.