Amid 30% IR imaging market growth, FLIR Systems confirms its leadership and pursues its strategy of technical innovation

Uncooled Infrared Imaging Technology & Market Trends report

LYON, France – July 6, 2015 – The uncooled thermal camera market re-entered a growth phase in 2014, after a subpar 2012 and 2013, thanks to an earlier-than expected stabilization of military demand and a dynamic commercial business. In its latest report, Uncooled Infrared Imaging Technology & Market Trends (June 2015 edition), Yole Développement (Yole) announces 30% growth in shipments and a 7% increase in revenue in 2014. This trend will continue for several years. The analysis indicates that shipments will be driven by three rapidly expanding commercial markets: thermography, automotive and surveillance. These markets are driven by the leading thermal camera supplier, US-based FLIR Systems, especially at the imager level.

This is the fifth infrared imaging analysis from Yole, the “More than Moore” market research and strategy consulting company. Its latest results include data on key market metrics and dynamics, and in-depth analysis of sales, broken down by segment. The Uncooled Infrared Imaging Technology & Market Trends report, 2015 edition, presents a comprehensive understanding of this industry’s value chain, infrastructure and related players.

Yole’s analysts highlight that commercial markets dominate thermal imaging, and were worth US$1.29B in 2014. FLIR Systems was especially successful in 2014, far exceeding the market’s average growth in shipments. “FLIR System’s leadership was enabled by its efficient vertically-integrated business model”, explains Yann de Charentenay, Senior, Technology & Market Analyst at Yole. According to Yole’s analysts, FLIR Systems’ strategy is the key to success. That strategy is:

- Technological innovation: FLIR invest almost 10% of its revenues (US$140M) since 4 years and has introduced a revolutionary small size/cost camera core, Lepton, one year ago and since then has announced eight new innovative and low price cameras products based this core. To understand in details this technology, System Plus Consulting, a sister company of Yole performed reverse engineered both the FLIR ONE and Lepton Consumer Thermal Imager. System Plus
Consulting’s analyses combine cost models and technology expertise to provide accurate and objective estimates of manufacturing costs and selling prices.

- Ensuring leadership in multiple commercial markets. “FLIR Systems developed its activities both organically by launching large products line (from high end to low end) in each commercial market and by pioneering new applications (smartphones, PVS, UAV...). FLIR also acquired many companies,” Yann de Charentenay details in Yole’s report. “It bought Indigo in 2003, and since 5 years, bought 6 companies for US$595M: Traficon International, Lorex Technology, DigitalOptics, Raymarine, ICX, Aerus.”

- Achieving economies of scale and decreasing price: by investing in multiple commercial market, FLIR can aggregate IR sensors volumes and thus lower sensor cost. With this competitive cost, FLIR decrease camera pricing in order to make infrared camera more accessible and follow is motto “infrared everywhere”

In the commercial market, Yole’s team has identified and analyzed three main applications.

- Thermography: This market will be driven by ultra-low-end cameras with very attractive sub-US$1,000 pricing. “Ultra-low end cameras will broaden the audience for thermal technology”, says de Charentenay. Between 2014 and 2015, FLIR Systems introduced many sub-US$1,000 Lepton-based products, including the AX8, the TG165, and the C2. New players are also entering the thermography market with low-cost sensors. With strong vertical integration, Bosch Power Tools will be the most dangerous.

- Automotive: Autoliv, the market leader, expects a sales jump in 2016-2017 with new mid-price cars adopting the company’s solutions. The company introduced its Night Vision solution in 2005 as a driving aid. In 2008, Autoliv enhanced this solution by adding Pedestrian Detection and Warning (PDW) and in 2013 it also proposed an Animal Detection System. Increased interest in autonomous cars is driving the long-term participation of new tier one players for thermal cameras, but competing technologies including visible cameras, radar and LIDAR, could also see wide adoption.

- Surveillance: This market continues growing thanks to price erosion. Yole found a 10% per year reduction, with new ultra low-end cameras like FLIR Systems’ TCX below US$1,000.
“These solutions target the “smart building” business that specializes in safer, lower energy building design”, explains de Charentenay.

The Uncooled Infrared Imaging Technology & Market Trends report provides a comprehensive overview of the latest industry news and an analysis of the new entrants and exits. Yole’s team presents a synthesis of all mergers and acquisitions over the last five years. This report also reviews twenty market segments including thermography, surveillance, automotive, smartphones and personal vision systems. A detailed description of this new report is available on www.i-micronews.com, in the imaging reports section.
About **Uncooled Infrared Imaging Technology & Market** report:
Rates: Euros 5,990.00 (Full report - Multi user license). For special offers and the price in dollars, please contact David Jourdan (Phone: +33 472 83 01 90).

“Uncooled Infrared Imaging Technology & Market” report from Yole Développement will be available on June 29, 2015.

- **Authors:**

  **Yann de Charentenay** has worked for Yole Développement in the field of MEMS, materials and compound semiconductors since 2003. He has contributed to more than 60 marketing and technological analyses.

  **Dr. Eric Mounier**, MEMS & Sensors Senior Analyst. With almost 20 years of experience in MEMS & Sensors applications, markets and technologies analysis, Dr Eric Mounier provides a very deep insight into the industry about the current and future trends for MEMS. At Yole Développement, Dr. Eric Mounier is in charge of MEMS & Sensors, but also covers printed electronics and future disruptive technologies such as photonics. He has contributed to more than 150 marketing & technological analysis and 60 reports on these topics, contributing to moving the MEMS industry forward. He has created and has been editor-in-chief of numerous media dedicated to the MEMS and Sensors industry. He is a co-founder of Yole and previously worked at the CEA LETI R&D lab in Grenoble, France in the marketing department. Eric is also an expert at the OMNT («Observatoire des Micro & Nanotechnologies») for Materials and devices for photonics.

- **Companies cited in the report:**


**About Yole Développement**

Founded in 1998, **Yole Développement** has grown to become a group of companies providing marketing, technology and strategy consulting, media and corporate finance services. With a strong focus on emerging applications using silicon and/or micro manufacturing, the Yole Développement group has expanded to include more than 50 collaborators worldwide covering MEMS, Compound Semiconductors, LED, Image Sensors, Optoelectronics, Microfluidics & Medical, Photovoltaics, Advanced Packaging, Manufacturing, Nanomaterials and Power Electronics. The group supports industrial companies, investors and R&D organizations worldwide to help them understand markets and follow technology trends to develop their business.
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