Robotics, Automation, Artificial Intelligence & Digital Economy

Stephane Lago – Senior Thematics Investment Specialist, AXA IM

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Evolving Economy – 5 main thematics

- **Transferring Societies**
  - Sustainable resources
  - Smart Grid
  - Clean Energy

- **CleanTech**
  - Energy efficiency
  - Internet of Things
  - Robotics

- **Automation**
  - Urbanisation
  - Basic needs
  - Social mobility

- **Ageing & Lifestyle**
  - Silver spending
  - Wellness and prevention
  - HealthTech

- **Connected Consumer**
  - E-commerce & FinTech
  - Software & Cloud
  - AI & Analytics

For illustrative purposes only. CR04530/06-17
Focus on 2 technology related thematics

- Clean Energy
- Smart Grid
- Sustainable resources
- Energy efficiency
- Internet of Things
- Robotics
- Automation

- Transitioning Societies
  - Basic needs
  - Social mobility
  - Urbanisation

- Connected Consumer
  - E-commerce & FinTech
  - Software & Cloud
  - AI & Analytics

- Ageing & Lifestyle
  - Silver spending
  - Wellness and prevention
  - HealthTech
Automation main growth drivers
Robots are more flexible, cheaper and can now interact with human beings

Worldwide annual supply of industrial robots

2005-2013: +5% per year on average
2014-2020: +15% per year on average

Source: AXA IM. Chart: IFR World Robotics 2017. Performance results of the past are no indicator for any future returns or trends.
Investable robotics
What it’s not (according to our definition)

Science-Fiction

Military equipment

Investable robotics
What it is (according to our definition)

Industrial Automation

Healthcare applications

Transport

Technology Enablers

(Only) 9% of global retail sales are transacted online

Source: Citi GPS: Technology at Work v. 3.0 – August 2017
Online continues to take market shares

By 2021, UK e-commerce penetration will be at 20%.

2021E e-commerce penetration
2016 e-commerce penetration

Source: AXA IM. For illustrative purposes only. Past performance is not a guide to future performance. Bottom left chart: Euromonitor, William Blair, Retail in a digital world, 2017. CR06361/05-18
Connected consumer main growth drivers
Digital native millennials & mobile shopping

- Personalised digital marketing and advertising
- Safe and secure transactions
- Augmented reality app use – “Visualise before you buy”
- Manage and follow your shipment

Mobile consumption exacerbated during online shopping holiday

Amazon Prime Day
11 July 2017 (Global)

$1bn\textsuperscript{1}

Cyber Monday
27 November 2017 (US)

$6.6 bn\textsuperscript{2}

Alibaba Singles Day
11 November 2017 (China)

$25.3bn\textsuperscript{3}

Alibaba sold $25bn of goods in one day
90% of which was on mobile\textsuperscript{3}

AXA IM thematic strategies

**Robotech* strategy**

- Industrial Automation
- Transport (i.e. autonomous vehicles)
- Healthcare applications
- Technology Enablers

Launch on 8th December 15
AUM: $4.8bn **

Cumulative performance in USD since launch
+76.0%

**Digital Economy strategy**

- Marketing/advertising
- E-commerce and Apps
- Logistic and FinTech
- Data analysis and digital enablers

Launch on 24th October 17
AUM: $30m **

Cumulative performance in USD since launch
+14.8%

Source: Lipper as at 26/01/2018. *AXA IM Global Robot Technology Equity Mother Fund is the representative account of the strategy for illustration purposes.
1: Inception date refers to 08/12/2015. Basis: NAV, Net income reinvested, net of fees in USD. The figures provided relate to previous months or years and past performance is not a guide to future performance. Performance calculations are based on the reinvestment of dividends. 2: Inception date refers to 24/10/2017. Basis: NAV, Net of Fees in USD. Performances are calculated with reinvested dividends and based on the official NAV. **AUM Data as at 26/01/2018
Thematic purity exposure is not an exact science

Low exposure
<10% of revenues
(generally mega caps)

Medium exposure
10-50% of revenues
(generally large caps)

High exposure
>50% of revenues
(generally small & mid caps)

% of revenues coming from the theme

Source: AXA IM as at 31/12/2017. For illustrative purpose only.
AXA IM Robotech Strategy*

Explanation of the outperformance since inception (08/12/2015)

Stock selection in healthcare helped to offset some of the equity returns

Strong performance from technology enablers supported by 3 M&A** (ARM Holding, NXP, Kuka)

Solid returns from small and mid cap stocks

Source: Lipper as at 26/01/2018. *AXA IM Global Robot Technology Equity Mother Fund is the representative account of the strategy for illustration purposes. Basis: NAV, Net income reinvested, net of fees in USD. The figures provided relate to previous months or years and past performance is not a guide to future performance. Performance calculations are based on the reinvestment of dividends. Index’s performance is calculated on the basis of dividends. The strategy does not have a reference index. The strategy’s performance indicator, the MSCI All Country World NR Index, is given as a basis for comparison only. (1) There is no guarantee that the strategy will achieve its goals.CR04104/10-17
Just the beginning of these multi-year thematics

✓ **Broadening of applications** continue to disrupt traditional sectors
✓ **M&As** have been supportive
✓ **New business segments** are emerging

Source: Left picture: Amazon website. Middle picture: ARK Invest, Big Ideas, Disruptive innovation, 2018. Right logo: company website
Appendix
### Other information

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<th>Legal form</th>
<th>Luxembourg SICAV Sub-Fund</th>
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<tr>
<td>Legal Rules</td>
<td>UCITS</td>
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<tr>
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<td>19/12/2016</td>
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<tr>
<td>Available Share Class Currency</td>
<td>USD / Euro / GBP / CHF</td>
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<td>Exit fees</td>
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<td>Initial minimum subscription £ amount (A / F / I )</td>
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<td>Share classes</td>
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Source: AXA IM as at 31/12/2017. CR04104/01-18
AXA WF Framlington Robotech

Risk Profile

FRAMLINGTON EQUITIES
AXA World Funds - Framlington Robotech

A Sub-Fund of AXA World Funds SICAV
Share class: AXA World Funds - Framlington Robotech | Capitalisation EUR (ISIN: LU1529781624)
This Sub-Fund is managed by AXA Funds Management S.A., part of the AXA IM Group
Share Class I Capitalisation EUR (LU1529781624) is representative for Share Class I Distribution EUR (LU1529781897).

Risk and Reward Profile

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<td>1</td>
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<td>3</td>
<td>4</td>
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<td>Potentially lower reward</td>
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Why is this Sub-Fund in this category?
The capital of the Sub-Fund is not guaranteed. The Sub-Fund is invested in financial markets and uses techniques and instruments which are subject to some levels of variation, which may result in gains or losses.

Additional Risks
Counterparty Risk: risk of bankruptcy, insolvency, or payment or delivery failure of any of the Sub-Fund’s counterparties, leading to a payment or delivery default.
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**AXA WF Framlington Digital Economy**

**Risk Profile**

**FRAMLINGTON EQUITIES**

**AXA World Funds - Framlington Digital Economy**

A Sub-Fund of AXA World Funds SICAV

Share class: AXA World Funds - Framlington Digital Economy I Capitalisation USD (ISIN: LU1694772994)

This Sub-Fund is managed by AXA Funds Management S.A., part of the AXA IM Group

Share Class I Capitalisation USD (LU1694772994) is representative for Share Class I Distribution USD (LU1694773026).

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The risk category is calculated using historical performance data and may not be a reliable indicator of the Sub-Fund’s future risk profile. The risk category shown is not guaranteed and may shift over time. The lowest category does not mean risk free.

**Why is this Sub-Fund in this category?**

The capital of the Sub-Fund is not guaranteed. The Sub-Fund is invested in financial markets and uses techniques and instruments which are subject to some levels of variation, which may result in gains or losses.

**Additional Risks**

- **Counterparty Risk:** Risk of bankruptcy, insolvency, or payment or delivery failure of any of the Sub-Fund’s counterparties, leading to a payment or delivery default.
- **Impact of any techniques such as derivatives:** Certain management strategies involve specific risks, such as liquidity risk, credit risk, counterparty risk, legal risk, valuation risk, operational risk and risks related to the underlying assets.
- **The use of such strategies may also involve leverage,** which may increase the effect of market movements on the Sub-Fund and may result in significant risk of losses.

Source: AXA IM as at 24/10/2017. CR07391/04-18
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