**Maritime traffic management with ESAIL**

Soon a Vega will launch from Kourou carrying a payload of several satellites. These will be delivered into orbit by a new multi-payload system developed by ESA. Among these small satellites, E-SAIL. This microsatellite is dedicated to supporting maritime traffic and making seafaring safer. It is part of ESA’s SAT-AIS programme, which aims is to increase the coverage of the Automatic Identification System for ships. This system is a short-range coastal tracking system currently used on ships that makes traffic safer but which has a limited range. With microsatellites from the SAT-AIS programme such as E-SAIL maritime shipping can be made safer across the oceans.

This A&B Roll includes interviews with:

Carsten Tobehn, SAT-AIS Project Manager, ESA in English and German

Frederic Rouesnel Senior Policy Officer, Luxembourg Space Agency in English and French

Thomas Goerlach Chief Executive Board LuxSpace in English and German

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| 10:00:00 | ESA leader |
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| 10:00:10 | Title: **Maritime Traffic Management with ESAIL** |
| * INT. ESAIL cleanroom, LuxSpace - Luxembourg, Summer 2019 - ESA (2shots) * INT. Control centre Guardia Costiera - Fiumicino port, Italy, Sept 2015 – EURONEWS (2 shots) * INT. EMSA control room and screens with ships movements – EMSA Lisbon Portugal, sept 2015 – EURONEWS (2shots) * EXT. Shots of sea-ships – Lisbon Portugal, Sept 2015 – EURONEWS (3shots) * INT. Guardia Costiera at sea inside boat - Fiumicino port, Italy, Sept 2015 - EURONEWS * Aerial. Cargo ships with island in the distance – unknonw date videoblocks | A cleanroom in Luxembourg, here the E-SAIL satellite is being developed. Once in space this rather small satellite carrying an Automatic Identification System device will become part of an international maritime network, equivalent to air traffic control.  Supported by the Luxembourg Space Agency and other ESA member states, the Automatic Identification System or AIS is a radio-based communications system that has been originally developed to prevent collisions of large maritime vessels. It transmits the course and speed of these ships as well as identification and position information to other nearby vessels and shore stations. |
| 10:00:50:20   * EXT. Luxspace – Luxembourg, Summer, 2019 - ESA | **Frédéric Rouesnel, Senior Policy Officer, Luxembourg Space Agency**  Automatic Identification System is important because it is providing a service to the maritime sector in particular for the ships. As you know there is 40 000 ships crossing the ocean and they need absolutely to be located to communicat between each other. |
| 10:01:07:01   * EXT. Aerial Cargoship at sea- Videoblocks * EXT. Aerial Cruiseship in harbor – Videoblocks * EXT. Aerial Multiple ships at sea – Videoblocks * Animation. Rotating globe – Videoblocks * EXT. Cargoship at sea- Videoblocks * Animation. ESAIL + globe – Beatrijs Van Hoof/ Nova-zembla Productions | Big cargo and passengers ships are obliged to carry AIS-equipment on board and the system has been deployed globally. However it has a major limitation: because of Earth’s curvature it horizontal range is limited to about 74 km, making it only available in coastal areas or on a ship-to-ship basis. By using satellites this problem can be solved, making it possible to identify and track seafaring vessels all over the world. |
| 10:01:39:04   * EXT. LuxSpace - Luxembourg, Summer 2019 - ESA | **ITW CARSTEN TOBEHN, SAT-AIS Project manager, ESA**  With satellites circling around the earth, you can scan the whole earth and then you know where every ships are. And then you have the complete picture of the earth which makes applications possible like tracking dangerous goods completely doing their journey even on the open ocean. |
| 10:01:53:10   * EXT. Aerial fishingboat at sea- Videoblocks * EXT. Oil pollution at sea – Videoblocks * EXT. Aerial Oil tanker at sea – Videoblocks * INT. EMSA control room and screens with ships movements – EMSA Lisbon Portugal, sept 2015 – EURONEWS (2shots) * Animation. Esail orbiting the earth detecting ships - 2020 – exactEarth * INT. LuxSpace ESAIL Flatsat in office - Luxembourg, Summer 2019 – ESA * Animation. Esail orbiting the earth detecting ships- 2020 – exactEarth | Other applications include the tracking of fishing vessels who are only allowed to fish in certain areas. But also vessels responsible for pollution can be identified using their AIS signal. When a ship’s AIS-signal is transmitted to the satellite, it records and decodes the ships identity before sending the signal to ground stations for further processing and distribution. This means that part of the data processing is performed onboard the E-sail satellite even before the raw data is sent to the ground, it is also able to track more vessels than other satellites, an impressive feat considering the satellite’s size. |
| 10:02:30:22   * INT. exactEarth, Canada – Summer 2019 - exactEarth | **ITW Peter Mabson, President, CEO and Director, exactEarth**  The Esail (…) satellite incorporates a number of advances in vessel detection technology, which is going to allow us to detect vessels better in very high-density areas of the world. Also the new capabilities can be used on the satellite to explore new services which can be offered to the maritime environment. |
| 10:02:49:06   * INT. ESAIL cleanroom shipment, LuxSpace - Luxembourg, januari 2020 – LuxSpace * INT. ESAIL cleanroom, LuxSpace - Luxembourg, Summer 2019 - ESA * Animation. SAT-ais constellation - 2020 – exactEarth * INT. ESAIL cleanroom, LuxSpace - Luxembourg, Summer 2019 - ESA * EXT. Outside EMSA building – Lisbon, Portugal, Sept 2015 – EURONEWS (2shots) * INT. EMSA control room and screens with ships movements – EMSA Lisbon Portugal, sept 2015 – EURONEWS (4shots) * EXT. Guardia Costiera at sea inside boat - Fiumicino port, Italy, Sept 2015 - EURONEWS * INT. Guardia Costiera at sea inside boat - Fiumicino port, Italy, Sept 2015 – EURONEWS (2shots) * EXT. Aireal Cargoship at sea- Videoblocks | For the E-SAIL programme ESA and LuxSpace work in partnership with operator Exact earth who fly a constellation of SAT-AIS satellites. Once more ESA plays its role as a facilitator for innovation and industry. In partnership with the European Maritime Safety Agency, ESA is promoting a European-based SAT-AIS system helping to validate innovative technologies in partnership with industry and Member State delegations, bringing them to market faster.  ESA also supports the European Commission and Member States in maritime safety services by applying benefits of satellite systems to help make our seas safer. |
| **10:03:42:02** | **B-ROLL** |
| * EXT. LuxSpace - Luxembourg, Summer 2019 - ESA | **Carsten Tobehn**  **SAT-AIS Project Manager, ESA**  **English**  **Soundbite**   * What is SAT-AIS * SAT-AIS constellation * ESAIL payload innovations * ESA TIA Partnership projects * What will ESAIL do |
| 10:07:38:14   * EXT. LuxSpace - Luxembourg, Summer 2019 - ESA | **Carsten Tobehn**  **SAT-AIS Project Manager, ESA**  **English**  **Soundbite**   * What is SAT-AIS * ESAIL payload innovations * ESA TIA Partnership projects |
| 10:09:51:10   * EXT. LuxSpace - Luxembourg, Summer 2019 - ESA | **Frédéric Rouesnel**  **Senior Policy Officer, Luxembourg Space Agency**  **English**  **Soundbite**   * Importance of SAT-AIS for Luxembourg * Support for industry * Importance of SAT-AIS |
| 10:12:13:07   * EXT. LuxSpace - Luxembourg, Summer 2019 - ESA | **Frédéric Rouesnel**  **Senior Policy Officer, Luxembourg Space Agency**  **French**  **Soundbite**   * Importance of SAT-AIS for Luxembourg * Support for industry |
| 10:13:39:22   * INT. ecactEarth, Canada – Summer 2019 - exactEarth | **Peter Mabson**  **President, CEO and Director, exactEarth**  **English**  **Soundbite**   * What is SAT-AIS? * How will SAT-AIS evolve? * The role of exactEarth on ESAIL |
| 10:15:04:10   * INT. ESAIL cleanroom, LuxSpace - Luxembourg, Summer 2019 - ESA | **GV’s ESAIL in cleanroom**  **LuxSpace**  **Luxembourg**  **ESA** |
| 10:16:53:17   * Animation. Esail orbiting the earth detecting ships and SAT-AIS constellation 1- 2020 – exactEarth | **ESAIL and SAT-AIS constellation**  **Animation**  **exactEarth** |
| **10:18:47:20** | **ESA CREDITS** |
| **10:18:57:10** | **END** |