

Stop Wapenhandel

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TU Delft and the arms industry

The European arms industry, including the Dutch industry, is actively selling arms to controversial countries and regimes all over the world. Between 2006 and 2015, EU member states granted arms companies licences to export arms to the Middle East and North Africa worth over €80 billion. These arms were sold to countries such as Egypt, Saudi-Arabia, Qatar, Israel, Turkey and many others repressive regimes that destabilize the region. The support for these authoritarian regimes and the Western military interventions are important factors in the contemporary conflicts in the region and the refugee tragedy. After profiting from, and contributing to, the conflicts, the arms industry is also profiting from stopping refugees through 'securing' Europe's borders by selling security products and receiving European research funds.

The arms industry, the government and researchers work together in developing arms. Many of the products sold to -and used- in the Middle-East and North Africa were (partly) developed on universities, including the TU Delft. For example at the moment the TU Delft is working closely with Lockheed Martin on the F-35 project. This combat aircraft is sold to Middle Eastern countries such Turkey and Israel but also to European countries that are actively bombing in Syria and Iraq.

'The real question is not whether machines think but whether men do'

In the past, all Technical Universities in the Netherlands had groups discussing the ethics of military production. Hardly any of these groups are still active. Connected to the Delft University there is *4TU.Ethics*, a Centre for Ethics and Technology. The focus of this centre is mainly on privacy, sustainable development and medical ethical questions but the issue of ethics of military production has disappeared from the debate agenda. It is important to be aware of the products and technologies that are developed and to take responsibility for their use.

Partners & products of the TU Delft:

Lockheed Martin & Fokker/Stork

Seventy Dutch companies and institutions were involved in the project of the Lockheed Martin's Joint Strike Fighter (F-35). The TU Delft and the Dutch company Fokker took actively part in the development of the F-35. Fokker Aerostructures manufactures several components of the F-35, including doors, wings and tails from thermoplastic composite. Also Fokker will be one of the main companies that will do maintenance and repair of parts of the F-35.

TU Delft has an internship program since 2003, as part of an agreement between Lockheed Martin, Fokker and Delft University, and since its inception, 72 interns have completed the program. The internship is a five-month program where top engineering and science students have the opportunity to gain hands on experience through work on the F-35 Lightning II Joint Strike Fighter program facilitated by Netherlands-based Fokker, at Lockheed Martin in Fort Worth, Texas.

The F-35 is presented as a catalysator for innovation and the economy but the price tag is significant. Literally the F-35 is very costly project, with disappointing results. Professor Lex van

Gunsteren from the TU Delft concluded in his research that; *'The JSF is a complete failure from an engineering design point of view.'* Although many saw these problems from the start, active lobbying and manipulation of results and costs made that many countries bought the aircraft.

More important is the moral price tag. The F-35 is a fighter aircraft, with mainly offensive capabilities such as bombing. The need for an assault aircraft like this is questionable, bombing campaigns in the last decade by Western countries have only destabilized the world. The F-35 will also be able to carry (American) nuclear bombs that are stationed at Airbase Volkel. Another major objection against the F-35 project is that it will undermine the Dutch arms export regulations. Dutch companies, mainly Stork, will produce parts for the aircraft but the Dutch government has hardly any control on the export licencing. The US decides who gets the F-35, in this way Dutch manufactured parts can end up in Turkish, Israeli or other countries that would never receive these products under Dutch regulations.

Airbus & Fokker

The cooperation between the university and Airbus dates back to the seventies. The main focus is on developing materials. In cooperation with multiple partners TU Delft is working on thermoplastic inflammable composites for aircraft engineering. This is a beautiful product with many applications. However it is telling that the DCMC (the Development Centre for Maintenance of Composites) was launched at the symposium of the lobby organization of the Dutch arms industry, the NIDV, with support of the Dutch Royal Airforce. In 2016 Airbus also organized an 'Airnovation Summer Academy' to strengthen Airbus-university-student relationships.

Besides a producer of civilian aircrafts, Airbus is the 7th largest arms company in the world. In 2016 Airbus sold arms for 15.6 billion euro's. Airbus sells multi-role attack helicopters, fighter aircrafts and several types of (nuclear) missiles. Airbus sold these arms to many repressive regimes all over the world and they were used in conflict such as the wars in Libya, Syria and Yemen.

Thales

The French-Dutch company Thales is also present in Delft with a department for Research & Development on radar technology and radar systems (its military core business), with approximately 25 employees and working in close cooperation with the University. One of the applications of these technology and systems is border control. In 2015, for example the Dutch government granted a 34 million euro export license to Thales Nederland for the delivery of radar and C3-systems to Egypt despite reports of human right violations in the country. Deals are made with these kinds of countries to prevent refugees from coming to Europe. Technology and products that 'defend' the borders and that 'detect' refugees are presented as a solution by the arms industry but actually contribute to the humanitarian tragedy by forcing refugees to take more dangerous routes to reach Europe.

Dutch Ministry of Defence

The Dutch Ministry of Defence works closely with TU Delft on several projects. A recent shared project is the developing, constructing and launching a very small satellite. These satellites can be used for reconnaissance and communication for ground troops. Another project is the 'Milfly', a mini-drone of 25 centimetres that has a camera and can be used by soldiers for reconnaissance. The problem with satellites, drones and other arms that can be used in unmanned warfare is that these technologies lower the threshold for the use of lethal force.