Para Bellum: Assessing Europe’s Industrial Capacity to Answer Europe’s New Military Budget Increases

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Abstract

The Government of Ireland announced a significant military budget increase for the first time in decades. This is excellent news for the Irish Defence Forces that need capacity enhancement and new equipment. However, Ireland is not the only EU country to increase its military budget. The Russian invasion of Ukraine has triggered several dramatic budget increases across EU countries. All these announcements have started to materialise into orders. Yet, the question is whether the military industry has the capacity to address such an inflow of new orders. The purpose of this article is to assess this capacity. The article looks at two companies, Rheinmetall and Thales, to understand their pipeline status and financing capacities. Pipelines are at an all-time high, and financing capacities have generally constrained leeway. Thus, the military industry will experience several bottlenecks, also due to an unfavourable macro-economic environment (e.g. higher energy and raw materials prices). In such a context, the Irish Defence Forces will most likely queue up for some times until 'early birds' and bigger customers are served.

Introduction

Military expenditure has returned as a priority in several EU political agendas following the Russian invasion in Ukraine. Germany tapped the highest increase with a revised yearly budget of €80bn bringing Germany into the NATO range of 2% of GDP, together with an additional €100bn one-off investment. On the Irish side, the need for a budget increase was identified as a key topic in the Commission on the Defence Forces' Report,[1] as the Irish Defence Forces have to upgrade and expand their material (estimated budget of up to c. €3bn/0.8% of GDP vs currently €1.1bn/0.3% of GDP).[2] The Minister for Defence agreed to an incremental increase to €1.5bn budget by 2028.[3] All these increases are primarily meant for purchasing new military equipment as the box below illustrates:

- Irish defence procurement priorities according to the LOA2 in the Commission Report
- Pursue Equipment Development Plan 2020-24 (incl. 80 Mowag Armoured Personnel Carriers, a Pilatus PC-12 aircraft, new Casa CN-295 aircrafts, modernised ICT Systems, etc.)[4]
- Vehicles equipped with STANAG level 4 armour and adequate firepower to replace Piranhas
- New air defence system to replace RBS70 MANPADS
- Subsea cables monitoring, MCM and survey capabilities, submersibles, underwater drones, etc.
- A multi-role vessel as part of a 9-ship minimum navy
- Replacement of two P50 class OPVs
- New coastal radar capability

1 Commission on the Defence Forces. "Report of the Commission on the Defence Forces." April 8, 2022. https://www.gov.ie/en/publication/eb4c0-report-of-the-commission-on-defence-forces/.
2 Ibid, p 12.
3 RTE Reporters. "Defence Forces Budget to Increase to €1.5 Billion by 2028." RTE, July 12, 2022. https://www.rte.ie/news/2022/0711/1309673-defence-spending/.
4 Department of Defence and Defence Forces. "Equipment Development Plan 2020-24." June 26, 2020. https://www.gov.ie/en/publication/9bd58-equipment-development-plan/.

- Primary radar system with civilian ATC integration and recognised air picture capability
- 2 extra medium helicopters and 8 'super medium' helicopters
- Anti-drone and counter UAV technologies
- Increased cyber software, hardware, training, and related infrastructure
- Extra infrastructure/building for ARW/SOF

To be successful, any increase of military expenditure must match industrial capacity. This article investigates the impacts of the increased demand on the military industry. Analysing the current shape of the defence sector is a macro exercise, and so this article will more specifically look at two European market leaders, Rheinmetall and Thales, to better appreciate their production capacities.

It is important to note that these companies are not the only ones that can meet future Irish needs, as there is a wide pool of companies worldwide that can serve Ireland as well. Rheinmetall and Thales are not representative of the entire European defence sector, but they are two leading companies in their respective sectors (vehicles, weapons, plus ammunition; and defence electronics and sensors) and therefore they provide useful examples for assessing the industrial capacity to address the increasing demand. Drawing from this analysis, the article will conclude with an assessment of the potential risks for Ireland arising from such production constraints – although there is a significant budget increase for Irish equipment, there may remain supply issues.

Market Composition and Special Features of the European Defence Sector

The European defence industry is characterised by some large market leaders, such as Airbus,[5] BAE Systems,[6] Thales,[7] Safran,[8] Leonardo,[9] Rheinmetall,[10] and Dassault.[11] Thales, Airbus, and Safran have a significant share of civilian business, and they are therefore not pure military players. In addition, more than 2,500 SMEs operate in the military value chain, although many of them primarily act in the civilian sector, their products and innovations can have a military use (often referred to as 'dual use').[12] There are c. 550 Irish defence-related SMEs, representing a €2.4bn export market in 2019.[13] Most of these SMEs operate in the dual use area, being merely producers or suppliers of IT, electrical or software systems. Ireland has also few defence companies that design, manufacture, and supply finished defence kit or services. Increasingly, the EU is attempting to steer innovation and competitiveness in the European defence sector, and this is led by a new Commission DG for Defence Industry and Space (DEFIS).[14] Its main achievement to date is the establishment of the European Defence Fund with a 2021-2027 budget of €8bn to invest in

5 Airbus SE, France, €52.1bn 2021 revenues and €88.74bn market capitalisation dd. 10-Nov-22.
6 BAE Systems plc, UK, €19.5bn 2021 revenues and €24.91bn market capitalisation dd. 10-Nov-22.
7 Thales SA, France, €16.2bn 2021 revenues and €26.79bn market capitalisation dd. 10-Nov-22.
8 Safran SA, France, €15.2bn 2021 revenues and €48.54bn market capitalisation dd. 10-Nov-22.
9 Leonardo SPA, Italy, €14.1bn 2021 revenues and €4.19bn market capitalisation dd. 10-Nov-22.
10 Rheinmetall AG, Germany, €5.6bn 2021 revenues and €7.26bn market capitalisation dd. 10-Nov-22.
11 Dassault Aviation SA, France, €4.9bn 2021 revenues and €12.19bn market capitalisation dd. 10-Nov-22.
12 DEFIS, "Defence SMEs". Accessed July 18, 2022. https://defence-industry-space.ec.europa.eu/eu-defence-industry/defence-smes_en.
13 Gallagher, C. "Is Ireland Funding the Military Adventures of Its European Neighbours?" The Irish Times, April 25, 2022. https://www.irishtimes.com/news/ireland/irish-news/is-ireland-funding-the-military-adventures-of-its-european-neighbours-1.4860703#:~:text=There%20are%20about%20550%20firms,of%20Ireland%27s%20beef%20export%20market
14 EU Commission. "Directorate-General for Defence Industry and Space." Accessed July 18, 2022. https://ec.europa.eu/info/departments/defence-industry-and-space_en.

research, mainly in favour of SMEs.[15] The EDF will benefit some Irish SMEs and Ireland plans to give a €150m contribution to the EDF.[16]

The Ukraine war has been a game changer for the defence sector,[17] and the military industry is working on expanding capacities to address orders (hiring new staff, adding shifts etc.).[18] While this joint public and private effort is ongoing, the question is whether the change brought by the war is structural. That is to say, should the war end quicker than expected and should the situation go swiftly back to normal, the public sector may reduce its budget, cancel its orders, and this would be problematic for the industry, which would have invested in expanding its production capacity without making the projected sales. Therefore, it is reasonable to expect industry to expand their production capacities carefully until the change is confirmed to be structural.

A characteristic of the European military industry is the restricted access to commercial banks. Several banks refuse to serve the military industry based on their internal policies and ethical governance considerations.[19] This ban limits the possibility to access financing facilities, hence the military industry operates with other sources of funding, such as own working capital and customers prepayments. For the same reasons, the military industry has a difficult access to investors, leading to a restricted capacity to raise equity and debt on the markets, but this trend might change as the share prices of the military sector have dramatically increased since Feb-22, showing a stronger interest for this sector.

Another issue is having the public sector as sales sponsor[20] and client. Contrary to the private sector, the public sector as client has more bargaining power, tends to unilaterally impose its conditions, and usually pays late – or at the very least at delivery – due to public finance constrains. This characteristic renders invoicing conditions difficult for industrials, who are thus left with little leeway. Additionally, the public sector is sometimes both client and major shareholder, i.e., Airbus (11% French State-owned, 11% German State-owned, and 4% Spanish State-owned), Thales (35% French State-owned), Safran (17% French State-owned), and Leonardo (30% Italian State-owned). Hence, these companies are even more subordinated to states' conditions.

15 DEFIS. "The European Defence Fund" (2021). Accessed July 18, 2022. https://defence-industry-space.ec.europa.eu/eu-defence-industry/european-defence-fund-edf_en.
16 Government of Ireland. "EU Funding for Irish Defence and Security Enterprise and R&D – Maximising the Opportunities" (2021). Accessed July 18, 2022. https://www.gov.ie/en/press-release/c8d2c-eu-funding-for-irish-defence-and-security-enterprise-and-rd-maximising-the-opportunities/.
17 There has not been U-turn in the Irish defence policy yet, but some politicians have spoken for enhancing Irish defence capabilities and firepower. See two tribunes of Irish MEPs: Barry, A. "Ireland Must Reconsider Its Policy of Military Neutrality." The Parliament Magazine, May 17, 2022. https://www.theparliamentmagazine.eu/news/article/ireland-must-reconsider-its-policy-of-military-neutrality, and Kelly, S. "Bolstering Defence Policy in Ireland Does Not Have to Come at the Expense of Neutrality." The Parliament Magazine, May 18, 2022. https://www.theparliamentmagazine.eu/news/article/bolstering-defence-policy-in-ireland-does-not-have-to-come-at-the-expense-of-neutrality.
18 This expansion leads to costs, like hiring costs (new salaries are usually more expansive than existing salaries to attract employees). Rheinmetall intends to hire between 1,500 to 3,000 new staff over the next years. Rheinmetall AG. "Rheinmetall AG Investor Relations Conference FY2021 Transcript.", March 17, 2022. https://ir.rheinmetall.com/download/companies/rheinmetall/Presentations/2022-03-17_Rheinmetall_Transcript_Conference_Call_FY2021.pdf. Rheinmetall AG. "Rheinmetall AG Investor Relations Conference Q1 2022 Transcript." May 6, 2022. https://ir.rheinmetall.com/download/companies/rheinmetall/Presentations/220506_Rheinmetall_Transcript_Earnings_call_Q1_2022.pdf.
19 The trend has very slightly changed since the Ukraine war with Commerzbank and SEB stating some propensity to finance the defence sector. Bloomberg Reporters. "Banks Change Course on Weapons Finance as Defence Spending Soars." Bloomberg, March 3, 2022. Accessed July 18, 2022. https://www.bloomberg.com/news/articles/2022-03-03/banks-change-tack-on-weapons-finance-as-defense-spending-soars#xj4y7vzkg.
20 Sales are usually sponsored by the governments due to the high political implications of military equipment sales. Rheinmetall AG Investor Relations Conference Q2 2022 Transcript.

In summary, the military industry faces now all-time full pipelines and still has to cope with uneasy financing and invoicing conditions. This has an impact on production capacity, as the companies cannot raise additional cash easily to accelerate and widen their production.

Strategic Role of Rheinmetall for Swift Rearmament

Rheinmetall AG[21] is an almost pure defence player[22] and a traditional military manufacturer, as it primarily sells weapons, ammunition, and trucks (e.g., Lynx and Puma). The weapon and ammunition business is the most profitable (17.6% operating margin), and the truck business is the largest (€1.8bn representing 33% of sales).[23] Rheinmetall is a main supplier to the Bundeswehr (c. 30% of sales), and thus it is in the frontline to absorb the new German demand.[24] Rheinmetall already reported a significant higher order intake, primarily for ammunitions and tanks (€14-16bn forecasted for 2022 and 2023 vs €4.7bn in 2021). [25] Large orders are to be placed by Germany, with a forecast of c. €7-9bn by 2023, including two large contracts in the €500-800m range. On top of that, Rheinmetall expects Germany to place further large contracts reaching a total of €30-35bn, including €7bn for ammunition. Other order intakes in the €300-500m range are expected to cover the war in Ukraine, but this will depend on the German political capacity and willingness to support the Ukrainians.

In addition, several countries have started placing orders and may place further contracts in 2022 and 2023. The largest are Australia (€4bn), Italy (probably in the single-digit billion range), Greece (€3.5bn and more tenders expected), Hungary (€7bn), Lithuania (€150m), and the UK (€200m). Furthermore, discussions are ongoing with the USA for a €40bn vehicles contract. Finland and Sweden represent high order opportunities as they are joining NATO and increasing their defence capacity.

Rheinmetall's pipeline is full and while they will welcome additional order intakes, their challenge is to rapidly convert these orders into sales. As of now, Rheinmetall forecasts six months for the delivery of ammunitions, and 12 months for material, such as trucks.[26] These delays are primarily relevant for short-term needs, for example should Germany place orders for the benefit of Ukraine, but not for Ireland whose orders may not materialise until 2025.

Rheinmetall faces external and internal constrains that impact its production capacity. Rheinmetall has been spending more working capital to build up inventory, mainly for raw materials and electronics,[27] to answer the high demand in weapons, ammunitions, and systems. By doing so, Rheinmetall prevents supply chain disruptions and ensures on-time deliveries. Customers' prepayments are a key source of funding for Rheinmetall, but these prepayments have been lower and Rheinmetall is asking customers for down payments and milestone payments mainly for buying materials. Rheinmetall states that customers understand this payment constraint and are ready to help with prepayments as it is the

21 Created in 1889, headquartered in Düsseldorf, credit rating Baa2/Stable (Moody's).
22 As of FY21, military equipment represented 67% of sales, with the rest of sales being dual-use. Rheinmetall AG. "Annual Report 2021." March 17, 2022. https://irpages2.equitystory.com/download/companies/rheinmetall/Annual%20Reports/DE0007030009-JA-2021-EQ-E-00.pdf.
23 Rheinmetall AG. "Annual Report 2021." March 17, 2022.
24 Forecasted Compound Annual Growth Rate 2021-2030 is 15% for sea, 15% for air, and 20% for land. Rheinmetall AG. "Conference Call Q2 2022". August, 5, 2022. https://ir.rheinmetall.com/download/companies/rheinmetall/Presentations/2022-08-05_Rheinmetall_Conference_Call_Half_Yearly_Financial_Report.pdf
25 Rheinmetall AG Investor Relations Conference FY2021 Transcript.
26 Ibid.
27 Ibid.

condition to receive their on-time delivery. Indeed, a lack of prepayments means that Rheinmetall should fund the production costs at its own expenses or with debt, but here it has the limited capacity to raise debt. Its current debt is relatively small (€1.1bn representing 14% of total equity and liabilities), mainly composed by promissory notes (€253m), an EIB[28] loan (€250m), commercial paper (€118m), and bank loans (€312m).[29] That is to say, Rheinmetall's financing agility is limited and depends on customers.

External headwinds are mainly coming from China, with increasing raw materials prices (aluminium and steel being particularly critical), semiconductor shortages, and supply chain disruption due to the lockdowns. In addition, record-high inflation in Europe plays adversely. Although some price increases can be hedged, uncovered increases will eventually be passed on to the clients, which means that military devices will become more expensive.

Rheinmetall is strongly linked to the German economy and policy, its share[30] price dramatically increased in Feb-22 moving from €96 on 24/02/22 to €160 on 28/02/22 (+67%), the landmarks being the start of the Ukraine war (24/02/22) and the watershed speech by Chancellor Scholz (27/02/22). This speech denotes a shift in German military policy, where Chancellor Scholz announced the budget increases. The financial package and new policy target address the lack of supply (including protection equipment and logistics vehicles),[31] and equipment modernisation.[32] The Bundeswehr will thereby transit from peacetime to a more warlike footing.

A potential strong headwind is likely to be the energy crisis. Germany faces gas shortages because of the war (gas accounts for 23.5% in the German energy mix and 57% of the gas is Russian).[33] Indeed, Gazprom cut by 60% its deliveries to Germany in Jun-22 leading the Bundesnetzagentur[34] to raise the 'alarm level', which denotes scarcity without rationing.[35] The Bundesnetzagentur asks companies to save energy and have warned that moving to the 'emergency level' would involve rationing. 'Emergency level' ensures supply for households and hospitals, here the defence sector could be added to ensure that production continues particularly when weapons and ammunitions are critically needed on the Ukrainian front.

How Thales is Navigating the New Reality Post-Ukraine Invasion

Thales SA[36] manufactures advanced military equipment for land, air, and sea with technological components (not 'traditional' weapons and equipment like Rheinmetall). These are military communication solutions, flight management systems, radars, and drones. Thales has both civilian

28 European Investment Bank.
29 Bank loans increased from €74m in Q1-22 to €312m in Q3-22, denoting support and interest from the banks.
30 Rheinmetall is a fully free floated company, i.e., no shareholder holding more than 5%. Ibid.
31 Rheinmetall AG Investor Relations Conference FY2021 Transcript.
32 Breakdown of the €100m investment is €2bn in apparel and personal equipment, €17bn in army, €21 in digitalisation for land, and €60bn in navy and airforce. Rheinmetall AG Conference Call Q2 2022.
33 Bundesministerium für Wirtschaft und Klimaschutz. 'Gas'. Accessed July 18, 2022. https://www.bmwk.de/Redaktion/DE/Textsammlungen/Energie/gas.html., and Büsker, A-K. "Die Bedeutung Von Gas Für Die Deutsche Energieversorgung." Deutschlandfunk, March 24, 2022. Accessed July 18, 2022. https://www.deutschlandfunk.de/energieversorgung-russland-deutschland-100.html.
34 The Federal Network Agency.
35 Bundesministerium für Wirtschaft und Klimaschutz. 'Bundesministerium für Wirtschaft und Klimaschutz ruft Alarmstufe des Notfallplans Gas aus Versorgungssicherheit weiterhin gewährleistet' (2022). https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2022/06/20220623-federal-ministry-for-economic-affairs-and-climate-action-announces-alert-level-of-the-emergency-plan-for-gas.html.
36 Created in 1893, headquartered in Paris, credit rating A2/Stable (Moody's) and A-/Negative (S&P).

and military business, 46% and 54% of sales respectively, and the military business is the most profitable with 12.4% EBIT[37] margin.[38] Thales is a key supplier to the French Army (30% of sales).[39]

The Ukraine war has not had an immediate impact on Thales, as was the case for Rheinmetall. After a slower Q1-22, Thales Defence and Security achieved a record order intake reaching €9.2bn YTD22,[40] including large orders (between €100m-900m) from Greece (Rafale), and France (Scorpion[41] and tactical radios),[42] leading to the record of a €29bn defence backlog.[43] The most demanded products are radios, airspace protection systems, and surface radars. This was also preceded by an exceptionally high 2021 order intake (€11bn including 13 large orders larger than €100m each) and with an all-time high backlog of €26bn. Thales is by nature less sensitive to short-term changes, because it sells advanced/technological military equipment, which reflects long-term projects and high military expenditure. This was reflected in its share price evolution, whose increase was lower than Rheinmetall, moving from €86 on 24/02/22 to €105 on 28/02/22 (+22%). This also denotes the less strategic importance of Thales for the Ukraine war, which is to-date a more traditional positional and artillery war – thus rather in critical need for Rheinmetall-like equipment.

Thales has also kept a low profile about the impact of the war on its defence business and strategy, most probably because Thales allegedly sold military equipment to Russia until recently[44] and this equipment has been reportedly used during the invasion.[45] Rheinmetall did not face similar controversies, also because the German military exports are subject to very stringent controls.[46] So far, Thales only reported that economic sanctions against Russia materialised in a €100m loss.[47]

Thales has good production capacities driven by high operating cash flow (€2.5bn in 2021 vs €1.1bn in 2020 and targeting €5.5bn over 2023).[48] Thales also needs significant cash to achieve its production due to its technological complexity, and due to the R&D needs to stay aligned with

37 Earnings before interest and taxes.

38 As of FY21 figures. See Thales SA. "2021 Full-Year Results," March 3, 2022. https://www.thalesgroup.com/sites/default/files/database/document/2022-03/Thales%20-%202021%20Full-Year%20results%20-%20slideshow.pdf.

39 The French Government set a €44bn 2023 defence budget (+7% vs 2022), where significant shares should be allocated to the purchase of new equipment. Forecast is €47bn in 2024 and €50bn in 2025. Thales SA. "9m 2022 order intake and sales". October, 26 2022. https://www.thalesgroup.com/sites/default/files/database/document/2022-10/Thales%20-%209m%202022%20order%20intake%20and%20sales%20-%20slideshow.pdf.

40 Sales were primarily boosted by 80 Rafale orders placed by the United Arab Emirates. Thales SA. "Thales reports its 2022 half-year results". July, 21 2022. https://www.thalesgroup.com/sites/default/files/database/document/2022-07/Thales%20reports%20its%20H1%202022%20results%20-%20Press%20release%20-%2021%20July%202022_1.pdf.

41 Modernisation programme of the French Infantry. It mainly aims at widening the use of robotics. Armée de Terre. "Le programme Scorpion" (undated). https://www.defense.gouv.fr/terre/nos-materiels-nos-innovations/nos-innovations/dossier-programme-scorpion/programme-scorpion.

42 Thales 2022 half-year results.

43 Thales 9m 2022 order intake and sales.

44 Thales reportedly sold military equipment to Russia until 2019 using financing from Russian banks, despite an embargo decided in 2014 after the Crimea invasion, France Info Reporters. "Guerre En Ukraine : Le Groupe Thales a Livré Jusqu'en 2019 à La Russie Des Kits Permettant D'assembler Des Caméras Infrarouges." France Info, April 30, 2022. https://www.francetvinfo.fr/monde/europe/manifestations-en-ukraine/guerre-en-ukraine-le-groupe-thales-a-livre-jusqu-en-2019-a-la-russie-des-kits-permettant-d-assembler-des-cameras-infrarouges_5111443.html.

45 BFM.TV Reporters. "Ukraine: Matériel Thales Retrouvé Dans Des Chars Russes." BFM.TV, June 26, 2022. https://www.bfmtv.com/international/asie/russie/ukraine-materiel-thales-retrouve-dans-des-chars-russes_VN-202205260062.html .

46 Article 26 of the Grundgesetz für die Bundesrepublik Deutschland (Basic Law for the Federal Republic of Germany 1949), full text available at https://www.gesetze-im-internet.de/gg/BJNR000010949.html. See for example the legal analysis of Ley, I. "Keine Waffenlieferungen in Krisengebiete?" Verfassungsblog, January 21, 2022. https://verfassungsblog.de/keine-waffenlieferungen-in-krisengebiete/#:~:text=Wie%20gesagt%3A%20Es%20gibt%20keine,%2D%2C%20NATO%2D%20oder%20Drittstaat.

47 Thales 2021 Full Year Results.

48 Thales 2021 Full-Year Results.

technological progress.[49] Thales has diversified cash cycles, being large projects with pre-payments (typically in defence and aerospace) and short-cycle flow business, which both allow regular cash entries.[50] Contrary to Rheinmetall, Thales has a good access to banks, as evidenced by the €1.5bn revolving credit facility gathering a pool of 17 banks.[51] This loan is most probably relationship defining, which means that banks supposedly serve Thales across various banking products and facilities. The majority State ownership and the presence of civilian business seemingly play in favour of the acceptance of Thales by commercial banks.

Thales faces the same external headwinds as Rheinmetall, i.e., sky-high inflation, supply chain disruption, higher raw materials and energy prices. Thales may be slightly less affected by energy scarcity compared to Rheinmetall, the French energy mix being less reliant on Russian gas (gas accounts for 16% in the French energy mix and 24% of that gas is Russian,[52] while nuclear energy meets a large share of electricity demand).[53]

Conclusion: Consequences for the Irish Defence Forces

Ireland has delayed the renewal and expansion of its military equipment for many years leading to the conclusions of the Commission on the Defence Forces, which assesses a significant lagging behind. The Commission recommended that the Government increase the defence budget to modernise and expand the Irish Defence Forces' material and the Minister for Defence agreed to an incremental increase to €1.5bn budget by 2028. The Department of Defence identified radar purchase as well as APCs[54] replacement, fleet equipment enhancement, new vessels, and new helicopters among actions with an undefined timeline.[55] For instance, radars and APCs can typically be purchased at Thales and Rheinmetall respectively, which both have full pipelines. Procurement planning will need to account for this. The Irish Defence Forces may also look for non-EU suppliers that have better production and pricing conditions, such as U.S. and South Korean or other globally based companies.[56]

Today, several EU/NATO nations have started to place significant orders, and prices are rising due to adverse macro conditions, potentially leading to higher down/milestone payments. Therefore, Ireland is very much likely to place its orders in an unfavourable environment, paying high prices, and queueing up after the quickest nations that place early orders. Furthermore, pricing may further increase due to the higher demand, potentially leading to a defence inflation higher

49 In addition, Thales conducts M&A to stretch its product offer, e.g. acquisitions of RUAG S&T (military simulation and training) in 2022 (€90m) and Moog navigation aids business (USA, military air traffic control) in 2021 (undisclosed price). Thales 2021 Full-Year Results.
50 Thales 2021 Full-Year Results.
51 Thales SA. "Thales signs €1.5bn climate-linked revolving credit facility." December 12, 2020. https://www.thalesgroup.com/en/group/journalist/press-release/thales-signs-eu15-bn-climate-linked-revolving-credit-facility.
52 Ministère de la transition écologique. "Bilan énergétique de la France" (2021). https://www.statistiques.developpement-durable.gouv.fr/edition-numerique/chiffres-cles-energie-2021/6-bilan-energetique-de-la-france. Sénat de la République française. "Union européenne - Russie : quelles relations ?' in Rapport d'information n° 307 (2006-2007)" (2007). https://www.senat.fr/rap/r06-307/r06-30714.html#:~:text=Si%20de%20nombreux%20pays%20d,Italie%20et%2024%20%25%20en%20France.
53 Ministère de la transition écologique (2021).
54 Armoured personnel carriers.
55 Ibid. p 28-32.
56 Rheinmetall identified South Korean companies as serious competitors with aggressive pricing. Rheinmetall AGConference Call Q2 2022. USA and Singapore can be added to this list. Poland recently placed a large order to the South Korean military industry, Smith, J. "Analysis: With massive Polish arms deal South Korea steps closer to Ukraine war" Reuters, July 29, 2022. https://www.reuters.com/world/with-massive-polish-arms-deal-skorea-steps-closer-ukraine-war-2022-07-28/.

than the normal inflation.[57] To date, Germany had to review its spending due to inflation, and it has postponed some naval and air-related purchases.[58] Similarly, Ireland may spend a lot more when placing its orders by the later 2020s. Moreover, the capacity of Irish companies to supply the required items seems unlikely given how few, unspecialized, or small Ireland's SME defence sector is. Countries such as Ireland, with a limited local military industry and with 'small' defence forces, should renew their equipment regularly, even during peacetime, so as not to face bottlenecks during times of heightened tension or war. An ideal solution would have been a coordinated placement of orders at NATO or/and EU level, but such a coordination did not happen, and this increases the likeliness of constrictions.[59]

Knowing the ongoing supply issues, Ireland may in addition seek for alternative ways for purchasing equipment, such as buying surplus kit that some militaries may be willing to offload. This may even speed up the procurement purchase rather than waiting until the late 2020s and 2030s. Ireland may also join the large order from a friendly state, but this would involve accepting the specifications of another state.

War in Ukraine and the increased likeliness of high intensity conflicts mean all European societies have to re-consider their support for the European defence industry and their industrial readiness for war-like conditions. As demonstrated in this analysis, a key element is to facilitate defence industrial production by ensuring that companies have adequate financing. States can leverage on higher pre-payments against the promise to receive on-time delivery. States may also ask commercial banks to facilitate military industry financing, and to accommodate this financing in such a way that it complies with and does not disrupt their ESG commitments (e.g., strict ring-fencing, tailored risk and profitability policies).[60]

Whatever Irish governments choose to do as regards defence spending or the level of ambition, this paper has argued that the European defence industry is currently experiencing delays, long pipelines, and much higher costs. That has implications for the timing of Ireland's planned new procurements, likely pushing them further into the future. Moreover, given rising costs, Ireland will have to pay greater attention to ensuring its Defence Forces get value for money as Ireland joins an already very long queue for more defence equipment in the wake of the Ukraine war.

57 Hartley, K. "UK defence inflation and cost escalation" (2016) Defence and Peace Economics Volume 27 Issue 2 pp 184-207.
58 Rheinmetall Q3-22 Conference Call.
59 Turban, P, and Bauer, A. "Guerre En Ukraine : L'Allemagne va déroger à sa Constitution pour se réarmer." Les Echos, May 30, 2022. https://www.lesechos.fr/monde/europe/guerre-en-ukraine-lallemagne-va-deroger-a-sa-constitution-pour-investir-dans-son-armee-1410024.
60 As stated by Rheinmetall CEO "there is now a very clear statement from […] governments in Europe to say that it couldn't that defence industry is a harmful industry and therefore we are minimum neutral, maybe better in the ESG taxonomy", in Rheinmetall AG. "Rheinmetall AG Investor Relations Conference FY 2021 Transcript." March 17, 2022. https://ir.rheinmetall.com/download/companies/rheinmetall/Presentations/2022-03-17_Rheinmetall_Transcript_Conference_Call_FY2021.pdf. Thales CEO shared similar views in Caine, P, "Paix et développement durable sont-ils compatibles?" Les Echos, September, 28, 2022.