

Written evidence submitted by Francis Tusa, Editor Defence Analysis

Original Sin

1. The General Dynamics European Land Systems (GDELS) Pizarro II was selected to be the base vehicle design for the Ajax programme as it was developed, in production, and thus low risk.
2. This was not true, as the Pizarro II (an upgrade to the *then*-in-service Pizarro I) had been cancelled/put on hold in early 2009 as a result of the Global Financial Crisis in 2008 that had caused the Spanish defence budget to be cut by more than 20%.
3. Pizarro II did come back into the Spanish defence budget as part of the 2015-20 Defence Plan, but it was postponed on several occasions 20-15. During that time, it was zero funded in the budget.
4. At the time of down-select, the rival CV90 was in full-scale production for the Netherlands, in the advanced Mark III format.

On what grounds was CV90 deemed to be insufficient for the Ajax role? Who took this decision? When? And during periods of programme instability with Ajax, why wasn't CV90 re-assessed as an alternative?

5. Pizarro II (according to the Spanish MoD programme sheet on it from October 2020) has a combat weight of 31t maximum – Ajax is currently at 38-40T, with “growth” to 42t.

The 10t difference is not marginal – it is a massive change, and reinforces the fact that this is/was not a low-risk, non-development programme.

Options

6. It is stated, not least in the recent IPA report, that there are no alternatives to Ajax: who said so? When? On what basis?
7. There are the current major AFV programmes underway, or in service, all of which could be used as a reconnaissance vehicles:
 - a. CV90 Mk4 for the Netherlands (<https://www.baesystems.com/en/article/bae-systems-receives-contract-to-provide-new-turret-for-netherlands-cv90s>).
 - b. Boxer Combat Vehicle Reconnaissance for Australia (<https://www.defensenews.com/global/europe/2021/06/02/rheinmetall-delivers-first-batch-of-boxer-scouting-vehicles-to-australia/>).
 - c. Lynx IFV for Hungary (<https://www.army-technology.com/news/hungary-orders-218-lynx-ifvs-from-rheinmetall/>).
 - d. Piranha V for Denmark (<https://www.edrmagazine.eu/danish-army-receives-first-piranha-5-and-eagle-5-wheeled-armoured-vehicles>).

- e. Jaguar reconnaissance vehicles for France (<https://www.overtdefense.com/2020/06/23/french-army-unveils-jaguar-recon-vehicle/>).

Note: 40mm Case-Telescoped Ammunition (the chosen armament system for Ajax) turrets are/have been integrated onto CV90, Boxer, and Jaguar.

There are options for an alternative to Ajax: CV90 has always been there, as has Piranha; Boxer has become a recce vehicle over the past 3-5-years; Jaguar is now in-service with the French Army; Lynx is more developmental, but an advanced system.

Noise and Vibration: The Dates

8. The MoD/ministers have said that it was only in late-2019 that excessive noise/vibration was reported by trials crews at the Armoured Trials and Development Unit (ATDU).
9. At the same time, according to the IPA 2021 Ajax report, General Dynamics says that it had not experienced any such problems when testing prototype and early-production vehicles.
10. However, in discussions with fellow defence specialist journalists, a group of more than half a dozen from different publications have agreed that we all learned (from different sources) of such issues at the 2017 DSEI defence show in London.
11. The sources included personnel attached to General Dynamics, departing GD employees, Army personnel attached to GD, Lockheed Martin (who build the Ajax turret), as well as close to a dozen sub-contractors, whether to GD or LM.
12. Although, at that time, there was no 100% confirmed cause, there was a widely-held belief that the weight reduction programme that had taken place c.2016 was the root cause.
13. Basically, efforts to reduce the weight of the base chassis had changed the dynamics of how the hull reacted, and the new, lighter chassis had less rigidity, thus causing the issues.
14. All the specialist defence journalists were told versions of the fact that stabilising the 40mm cannon was difficult/impossible as a result of the vibration, and that there were also some issues about:
 - a. Vibration adversely affecting electronic systems in the turret.
 - b. Vibration causing cables to come un-connected from the boxes that they connected.

15. As another milestone, tests/assessments of Ajax by the Australian Army in 2018-19 deemed it to be, “not fit for purpose”. Australian specialist defence journalists were told by the Australian Army trials team that British Army personnel who deployed to support the tests told them how bad Ajax was. Several stories in Australian defence magazines mentioned vibration as an issue for the Australian Army’s decision.

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