



4IR Technologies:

**AI, Robotics,
Autonomous systems,
IoT**

Emirate:

Dubai

Maturity:



Operational Deployment

Type:

Public-Private

SMART CITIES

045

One Force, Three Domains: Dubai Police's Multi- Domain Autonomous Policing Ecosystem

ACTORS

Dubai Police

SNAPSHOT

Dubai Police is developing a multi-domain autonomous policing ecosystem that applies artificial intelligence, robotics, autonomous systems and connected technologies to extend operational reach across land, air and sea. On land, DPR-02 provides a fully autonomous ground-patrol capability alongside Ghiath, Dubai Police's officer-operated smart patrol.^{1,2} In the air, Drone Box enables autonomous aerial first response through distributed drone stations; by 2025, the network had expanded to 12 active units.³ At sea, Haddad extends the model toward autonomous maritime monitoring and patrol support.⁴

Co-creation is a defining feature of the ecosystem. Dubai Police has worked with strategic partners to translate frontline operational needs into deployable solutions, combining police domain expertise with external engineering,

mobility and digital capabilities.^{5,6,7,8} This approach has allowed the projects to evolve around policing requirements rather than around individual technologies. The significance therefore lies less in any single platform than in the operating model emerging around them. Connected to Dubai Police's wider command-and-control environment, the systems extend sensing, situational awareness and response while officers retain authority over judgement, intervention and enforcement.^{9,10}

WHY IT MATTERS

Dubai's scale, density and pace of growth create a public-safety challenge that cannot be addressed simply by adding more conventional patrol resources. Police operations span major road networks, dense public areas, airspace and an extensive coastline, often while responding to incidents in minutes. Dubai Police's digital-transformation agenda therefore focuses on connected operations, real-time data and technology-enabled response across the organisation.¹¹

Autonomous systems add a new operational layer to this model. They can maintain persistent presence, reach incidents quickly, gather information before officers arrive and operate where immediate deployment of personnel may be inefficient or carry additional risk. Drone Box illustrates the value of this approach by rapidly deploying an aerial asset to an incident and providing real-time information to the Command and Control Centre.^{12,13}

The objective is not autonomy for its own sake. Dubai Police's approach keeps people at the centre of the operating model. DPR-02 includes tele-operation capability for human intervention when required, while Drone Box missions remain integrated with police operational structures.^{14,15} Autonomous systems are used for tasks suited to machines, such as sensing, mobility, persistence and rapid deployment, while professional judgement and enforcement remain human responsibilities.

HOW THE TECHNOLOGY WORKS

Land. DPR-02 provides an autonomous patrol capability built around self-driving mobility, onboard sensing and direct connectivity with the Command and Control Centre. The vehicle can operate autonomously while retaining tele-operation capability for human intervention when required.¹⁶ Ghiath provides a complementary form of intelligent mobility: the officer remains in command while advanced smart systems, artificial intelligence and connected technologies strengthen situational awareness and field capability.¹⁷ Together, the two platforms illustrate two levels of 4IR-enabled policing on the road: autonomous presence and technology-augmented frontline operations.

Air. Drone Box transforms the drone from a specialist asset that must be mobilised for each mission into a distributed first-response capability. Aircraft are housed in autonomous stations and can be dispatched to an incident, transmit live operational information to police command centres and return after completing the mission.^{18,19} This gives command teams an earlier view of an incident and allows the aerial layer to support ground response as part of the same operational process.

Sea. Haddad extends the same principle into the maritime environment. The self-driving smart police boat combines remote-control functions, onboard monitoring and visual-analysis capabilities to strengthen maritime security and patrol efficiency.²⁰ Its development has also been advanced through collaborative technology development and knowledge exchange with strategic partners, reflecting the co-creation model used across the ecosystem.²¹ The platform broadens the application of autonomous mobility from roads and airspace to the maritime domain.

Integration. The ecosystem's value comes from operational coordination across the three domains. Rather than treating each asset as a standalone technology project, Dubai Police is building a model in which remote sensing, live information and field resources contribute to a common command-and-control process.^{22,23} Integration today is primarily operational, covering shared command, dispatch, information flows and human supervision, creating the foundation for progressively deeper technical interoperability between platforms.

IMPACT AND RESULTS

Emergency response time provides the clearest ecosystem-level measure of the direction of travel. In the first quarter of 2021, Dubai Police reported an average patrol response time of 2 minutes 47 seconds to emergency scenes.²⁴ By the third quarter of 2025, the average response time to critical emergencies had fallen to 2 minutes 7 seconds, an improvement of roughly 24% between those two reported periods.²⁵ Within the autonomous aerial layer, Drone Box averaged just 57 seconds for very urgent cases.²⁶ These results reflect the wider evolution of command-and-control, patrol deployment and connected first-response capabilities; they should not be attributed to any single platform.

Public-safety indicators provide wider context for the environment in which the ecosystem operates. For 2025, Dubai Police recorded a 99.9% daytime safety perception score and a 98.7% score for feeling safe while walking at night in the

IMPACT AND RESULTS CONT'D

Security Quality of Life Survey conducted by the Federal Competitiveness and Statistics Centre in cooperation with the Ministry of Interior.²⁷ Gallup's 2025 Global Safety Report independently placed the UAE among the world's top 10 for perceived nighttime safety, with 90% of respondents reporting that they felt safe walking alone at night; the UAE's Law and Order Index score was 88.²⁸ These are not direct measures of the autonomous ecosystem, but they provide an independent view of the broader safety outcomes that technology-enabled policing is intended to support.

The ecosystem's maturity is also visible in its progression from experimentation to operational deployment and scale. DPR-02 entered operational deployment in 2025.²⁹ By the same year, Drone Box had developed into a distributed network of autonomous first-response stations.³⁰ Ghiath has likewise continued to evolve, with a second generation introduced in 2026.³¹ Together, these developments show autonomous and intelligent mobility capabilities moving beyond isolated trials toward repeatable use within policing workflows.



WHAT'S NEXT

The next phase is about interoperability, not simply adding more platforms. The second generation of Ghiath, in service since July 2026, is the newest of the assets that environment will have to coordinate.³² The wider opportunity is to create a common operating environment in which command centres can identify an incident, select the most appropriate available asset, task it under human oversight, combine information from multiple domains and provide officers with a shared operational picture. This direction is consistent with Dubai Police's 2025 to 2030 Future of Digital Mobility Strategy.³³

Over time, deeper integration could move the model from connected autonomous assets toward coordinated autonomy across land, air and sea. The central 4IR lesson is that value comes not from robots, drones or AI in isolation, but from co-creating solutions around operational needs and redesigning processes around what the technologies enable: faster sensing, smarter deployment, safer operations and better-informed human decisions.

REFERENCES

- Emirates News Agency (WAM) (2025) 'Dubai Police to deploy self-driving robotic patrol DPR 02 at Global Village'. 14 October. <https://www.wam.ae/en/article/bm78my3-dubai-police-deploy-self-driving-robotic-patrol>
- Emirates News Agency (WAM) (2026) 'Dubai Police unveil next generation of Ghiath smart patrols'. 8 July. <https://www.wam.ae/en/article/c149mfi-dubai-police-unveil-next-generation-ghiath-smart>
- Dubai Government Pavilion (2025) 'Next Era of Intelligent City Innovation'. <https://www.gitex.com/media/gitex-global-2025-dubai-government-pavilion-unveils-next-era-of-intelligent-city-innovation>
- Government of Dubai Media Office (2025) 'Dubai Police boosts maritime safety with new patrols and eco-friendly innovations'. 19 October. <https://www.mediaoffice.ae/en/news/2025/october/19-10/dubai-police-boosts-maritime-safety-with-new-patrols-eco-friendly-innovations>
- Emirates News Agency (WAM) (2025) 'Dubai Police to deploy self-driving robotic patrol DPR 02 at Global Village'. 14 October. <https://www.wam.ae/en/article/bm78my3-dubai-police-deploy-self-driving-robotic-patrol>
- Emirates News Agency (WAM) (2026) 'Dubai Police unveil next generation of Ghiath smart patrols'. 8 July. <https://www.wam.ae/en/article/c149mfi-dubai-police-unveil-next-generation-ghiath-smart>
- Emirates News Agency (WAM) (2025) 'Mansoor bin Mohammed reviews Dubai Police's UASC operations supporting predictive security, rapid response'. 29 May. <https://www.wam.ae/en/article/bjx2tup-mansoor-bin-mohammed-reviews-dubai-polices-uasc>
- Emirates News Agency (WAM) (2024) 'Dubai Police develops smart systems for its Haddad boat project'. 7 August. <https://www.wam.ae/ar/article/b4jywi8>
- Emirates News Agency (WAM) (2025) 'Mansoor bin Mohammed reviews Dubai Police's UASC operations supporting predictive security, rapid response'. 29 May. <https://www.wam.ae/en/article/bjx2tup-mansoor-bin-mohammed-reviews-dubai-polices-uasc>
- Emirates News Agency (WAM) (2024) 'AI Obaidli reviews Dubai Police's Strategy for Digital Transformation 2024 to 2033'. 7 July. <https://www.wam.ae/en/article/b41iolz-obaidli-reviews-dubai-polices-strategy-for>
- Emirates News Agency (WAM) (2024) 'AI Obaidli reviews Dubai Police's Strategy for Digital Transformation 2024 to 2033'. 7 July. <https://www.wam.ae/en/article/b41iolz-obaidli-reviews-dubai-polices-strategy-for>
- Emirates News Agency (WAM) (2025) 'Mansoor bin Mohammed reviews Dubai Police's UASC operations supporting predictive security, rapid response'. 29 May. <https://www.wam.ae/en/article/bjx2tup-mansoor-bin-mohammed-reviews-dubai-polices-uasc>
- Emirates News Agency (WAM) (2024) 'Dubai Police's Drone Box bolsters emergency response system'. 31 July. <https://www.wam.ae/en/article/b4ft3as-dubai-polices-drone-box-bolsters-emergency>
- Emirates News Agency (WAM) (2025) 'Dubai Police to deploy self-driving robotic patrol DPR 02 at Global Village'. 14 October. <https://www.wam.ae/en/article/bm78my3-dubai-police-deploy-self-driving-robotic-patrol>
- Emirates News Agency (WAM) (2025) 'Mansoor bin Mohammed reviews Dubai Police's UASC operations supporting predictive security, rapid response'. 29 May. <https://www.wam.ae/en/article/bjx2tup-mansoor-bin-mohammed-reviews-dubai-polices-uasc>
- Emirates News Agency (WAM) (2026) 'Dubai Police unveil next generation of Ghiath smart patrols'. 8 July. <https://www.wam.ae/en/article/c149mfi-dubai-police-unveil-next-generation-ghiath-smart>
- Emirates News Agency (WAM) (2025) 'Dubai Police to deploy self-driving robotic patrol DPR 02 at Global Village'. 14 October. <https://www.wam.ae/en/article/bm78my3-dubai-police-deploy-self-driving-robotic-patrol>
- Emirates News Agency (WAM) (2025) 'Mansoor bin Mohammed reviews Dubai Police's UASC operations supporting predictive security, rapid response'. 29 May. <https://www.wam.ae/en/article/bjx2tup-mansoor-bin-mohammed-reviews-dubai-polices-uasc>
- Emirates News Agency (WAM) (2024) 'Dubai Police develops smart systems for its Haddad boat project'. 7 August. <https://www.wam.ae/ar/article/b4jywi8>
- Emirates News Agency (WAM) (2025) 'Mansoor bin Mohammed reviews Dubai Police's UASC operations supporting predictive security, rapid response'. 29 May. <https://www.wam.ae/en/article/bjx2tup-mansoor-bin-mohammed-reviews-dubai-polices-uasc>
- Emirates News Agency (WAM) (2024) 'AI Obaidli reviews Dubai Police's Strategy for Digital Transformation 2024 to 2033'. 7 July. <https://www.wam.ae/en/article/b41iolz-obaidli-reviews-dubai-polices-strategy-for>
- Government of Dubai Media Office (2021) 'Dubai Police reaches emergency scenes in 2 minutes 47 seconds during Q1'. 8 May. Arabic edition. <https://mediaoffice.ae/ar/news/2021/may/08-05/dubai-police-reach-scenes-of-emergencies-in-2-minutes-47-seconds-during-q1>
- Emirates News Agency (WAM) (2025) 'Dubai Police handled over 7 million calls last year'. 16 November. <https://www.wam.ae/en/article/bmqvxsu-dubai-police-handled-over-million-calls-last-year>
- Emirates News Agency (WAM) (2025) 'Dubai Police handled over 7 million calls last year'. 16 November. <https://www.wam.ae/en/article/bmqvxsu-dubai-police-handled-over-million-calls-last-year>
- Government of Dubai Media Office (2026) 'Dubai Police redefine public safety with a score of 99.9% on the daytime safety perception index'. 2 July. <https://mediaoffice.ae/en/news/2026/july/02-07/dubai-police-achieve-99-daytime-safety-perception-score>
- Gallup (2025) 'The Global Safety Report: A Safer World in Unsafe Times?'. https://www.gallup.com/file/analytics/695138/Gallup_Global_Safety_Report-2025.pdf
- Emirates News Agency (WAM) (2025) 'Dubai Police to deploy self-driving robotic patrol DPR 02 at Global Village'. 14 October. <https://www.wam.ae/en/article/bm78my3-dubai-police-deploy-self-driving-robotic-patrol>
- Dubai Government Pavilion (2025) 'Next Era of Intelligent City Innovation'. <https://www.gitex.com/media/gitex-global-2025-dubai-government-pavilion-unveils-next-era-of-intelligent-city-innovation>
- Emirates News Agency (WAM) (2026) 'Dubai Police unveil next generation of Ghiath smart patrols'. 8 July. <https://www.wam.ae/en/article/c149mfi-dubai-police-unveil-next-generation-ghiath-smart>
- Emirates News Agency (WAM) (2026) 'Dubai Police unveil next generation of Ghiath smart patrols'. 8 July. <https://www.wam.ae/en/article/c149mfi-dubai-police-unveil-next-generation-ghiath-smart>
- Emirates News Agency (WAM) (2025) 'Dubai Police unveil 2025 to 2030 Strategy for Centre for Future of Digital Mobility'. 16 May. <https://www.wam.ae/en/article/bjpc6ko-dubai-police-unveil-2025-2030-strategy-for-centre>