

ARCHIVED REPORT

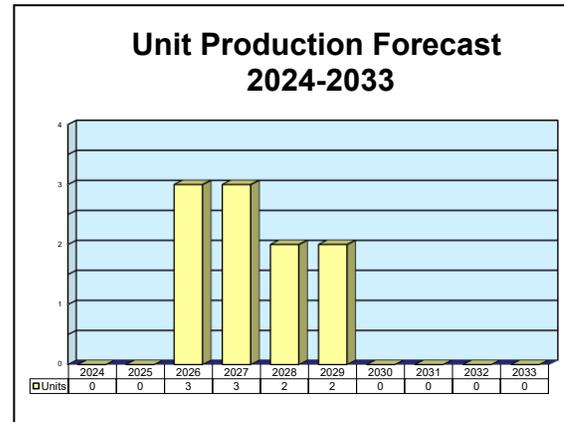
For data and forecasts on current programs please visit forecastinternational.com or call +1 203.426.0800

CIS 40 AGL

's

Outlook

- CIS 40 AGL production occurs on an as-needed basis for additional procurement by the Singapore Armed Forces and for possible export sales
- In 2000, the contractor released an upgrade kit, known as the 40mm AGL Air Bursting System
- The CIS 40 AGL is also marketed as the STK 40 AGL
- Production forecast reflects ST Land Systems' minimal expectations for additional CIS 40 AGL demand



Orientation

Description. A medium-caliber automatic grenade launcher.

Sponsor. Singapore Technologies (ST) Land Systems sponsors the development and production of the CIS 40 AGL as a private venture.

Status. Development through serial production.

Total Produced. Through 2023, we estimate the prime contractor and licensee produced 2,124 units of the CIS 40 AGL.

Application. Ground- or vehicle-mounted fire support at the infantry company level for both offensive and defensive operations. The CIS 40 AGL can also mount a variety of naval patrol craft.

Price Range. In 2024 U.S. dollars, the CIS 40 AGL carries an estimated unit price of \$23,812.

Contractors

Prime

Singapore Technologies Land Systems Ltd, (ST Land Systems)

<http://www.stengg.com>, 249 Jalan Boon Lay, Singapore, Singapore,
Tel: + 65 6265 1066, Fax: + 65 6261 6932, Email: comms.kinetics@stengg.com, Prime

Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 75 Glen Road, Suite 302, Sandy Hook, CT 06482, USA; rich.pettibone@forecast1.com

CIS 40 AGL**Technical Data****Crew.** One.**Muzzle Brake.** None.**Recoil System.** Blowback, automatic.**Breech Mechanism.** Open bolt.**Feed.** 25- or 50-round disintegrating-link belt.**Carriage Type.** None. The weapon employs a bipod or vehicular pintle-style pedestal mount.**Shield.** None.**Ammunition.** The CIS 40 AGL fires standard U.S. 40x53mm semi-rimmed high-velocity (HV) grenades, in the following types:

- M383 and M384 (S412 HE) High Explosive (HE)

- M430 (S430) High-Explosive, Dual-Purpose (HEDP)

- M918 Practice

- M385 (S416A) Practice Inert

ST Land Systems also offers a new line of compatible 40x53mm ammunition, consisting of the following types:

- S411 HEDP
- S413 HEDP (Self-Destruct)
- S415A Target Practice-Tracer (TP-T)
- S418 Airburst
- S418 Target Practice (TP)

Dimensions. The following data reflect the latest production-standard CIS 40 AGL.

	<u>SI Units</u>	<u>U.S. Units</u>
Caliber	40mm	1.57 in
Length	96.6 cm	3.17 ft
Barrel length	35 cm	1.15 ft
Width	37.6 cm	1.23 ft
Weight	33 kg	72.6 lb

Performance. The following data reflect firing the M384 HE round.

	<u>SI Units</u>	<u>U.S. Units</u>
Maximum range	2,200 m	2,405.9 yd
Rate of fire	325-375 rds/min	325-375 rds/min
Muzzle velocity	241 mps	790.7 fps

The CIS 40 AGL reportedly maintains a barrel life in excess of 10,000 rounds.

Variants/Upgrades**Variants.** None.**Modernization and Retrofit Overview.** Generally not applicable. ST Land Systems incorporates improvements as production cut-ins.

In June 2000, the contractor released the 40mm AGL Air Bursting System upgrade kit. The 40m AGL ABS features an electronic fire control system, gun computer, muzzle programming coil and an optical sighting system.

Program Review**Background.** In the mid-1960s, the U.S. Navy developed the Mark 19 automatic grenade launcher for employment on riverine patrol boats in Vietnam.***Mark 19 Blazes a New Trail***

The Mark 19, firing high-pressure/high-velocity versions of the 40mm grenade, remained virtually the only operational weapon system of its kind through the mid-1970s. The U.S. Army and U.S. Marine Corps have

been the biggest users of the Mark 19, in the ground- and vehicle-mounted fire support role.

In 1975, the Soviet Union introduced the 30mm AGS-17 automatic grenade launcher. In mid-1980, the performance of the AGS-17 in Afghanistan generated considerable international interest in the ground- and vehicle-mounted automatic grenade launcher. At that time, the U.S. government – which owned the rights to

CIS 40 AGL

the Mark 19 – was reluctant to approve export sales of the launcher. (For more information on the Mark 19 and AGS-17, see the "Mark 19" and "Russian Automatic Grenade Launchers" reports in this service.)

Singapore's Entry

This growing interest in automatic grenade launchers, combined with the lack of available weapons on the international market during the mid-1980s, spurred the design of a number of other automatic grenade launchers to fill the gap. In 1986, the Chartered Firearms Industries component of Chartered Industries of Singapore (CIS) developed the 40mm CIS 40 AGL to fire U.S.-pattern 40x53mm semi-rimmed grenades. CIS first offered the weapon on the international market in 1989.

In 1998, Ordnance Development and Engineering absorbed Chartered Firearms Industries. In 2000, Chartered Industries of Singapore changed its name to Singapore Technologies Kinetics.

Description. The CIS 40 AGL is a simple, robust blowback-operated weapon that fires from an open bolt. The belt-fed weapon features a two-stage feed mechanism. Overall, the CIS 40 AGL consists of about 140 parts (20+ fewer than the Mark 19), comprising the following major assemblies:

- Barrel and receiver group
- Bolt and backplate group

- Feed cover assembly
- Trigger group and rear sight assembly

The weapon can accommodate various mechanical or optical sights; the CIS 40 AGL is reportedly more accurate than the Mark 19 or AGS-17. Further, the CIS 40 AGL is said to be easier to load and operate than its American and Russian competitors. The operator requires no special tools for fieldstripping.

The contractor also markets the weapon system as the STK 40 AGL.

Mounting Options

The CIS 40 AGL can mount a variety of platforms. Singapore has installed the CIS 40 AGL on at least 125 of its M113 armored personnel carriers. The CIS 40 AGL also forms part of the 40/50 weapon station of the Bionix mechanized infantry fighting vehicle.

Airbursting Munition System

The CIS 40 AGL can also accommodate the ST Land Systems/Örlikon-Contraves (Switzerland) Air Bursting Munition System. The ABMS consists of the S418 airburst round, a fire control component, and a muzzle-mounted fuze programmer. Based on Örlikon's 35mm AHEAD anti-aircraft artillery system, the ABMS can be retrofitted to the CIS 40 AGL or any other 40mm automatic grenade launcher.

Funding

The prime contractor funded development of the CIS 40 AGL as a private venture.

Worldwide Distribution/Inventories

Export Potential. Until 1990, the reluctance of the U.S. government to approve export of the Mark 19 left the door open for competing designs such as the CIS 40 AGL. To date, at least 16 nations have adopted the CIS 40 AGL for service. Kuwait is reportedly evaluating the weapon system.

As Singapore Technologies Land Systems continues to build a worldwide reputation for quality weapons systems, we expect the CIS 40 AGL to continue to score moderate export sales.

Licensed Production. In 1994, PT Pindad began licensed production of the CIS 40 AGL as the *pelontar granat otomatis kaliber* 40mm for the Indonesian armed forces. It differs from the original launcher only in its integration with Indonesian-style mounts.

Worldwide Distribution. Bangladesh, Chile, Cyprus, Georgia, Indonesia, Italy, Mexico, Morocco, Nigeria, Papua New Guinea, Peru, Philippines, Republic of Singapore, Sri Lanka, Thailand, and Uruguay.

CIS 40 AGL

Forecast Rationale

Intermittent procurement of the CIS 40 AGL — also known as the STK 40 AGL — by the Singapore Armed Forces will continue to support low-rate serial production on an as-needed basis. The SAF mounts the CIS 40 AGL on the M113 armored personnel carrier and Bionix mechanized infantry combat vehicle.

The Indonesian-licensed CIS 40 AGL production run is complete. We forecast no further production of this line.

Beyond Singapore and Indonesia, at least 14 other countries employ the CIS 40 AGL. Kuwait is reportedly evaluating the weapon system for possible procurement.

Profitable Minor Player

Regardless of when domestic procurement for the SAF is completed, the Forecast International Weapons Group believes CIS 40 AGL production will continue for export.

Although it remains a relatively minor player on the international market compared with the 40mm Mark 19, the CIS 40 AGL continues to be a proven moneymaker for ST Kinetics.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR UNIT PRODUCTION												
Designation or Program	Thru 2023	High Confidence				Good Confidence			Speculative			Total
		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	
Singapore Technologies Land Systems Ltd												
CIS 40 AGL <-> Singapore												
	2,124	0	0	3	3	2	2	0	0	0	0	10
Total	2,124	0	0	3	3	2	2	0	0	0	0	10