



Micron automated reliability testing

Bi-directional bending
and torsion

ABB GoFa 5 handling
Customer-owned Instron





One cell, two test methods

01 Select

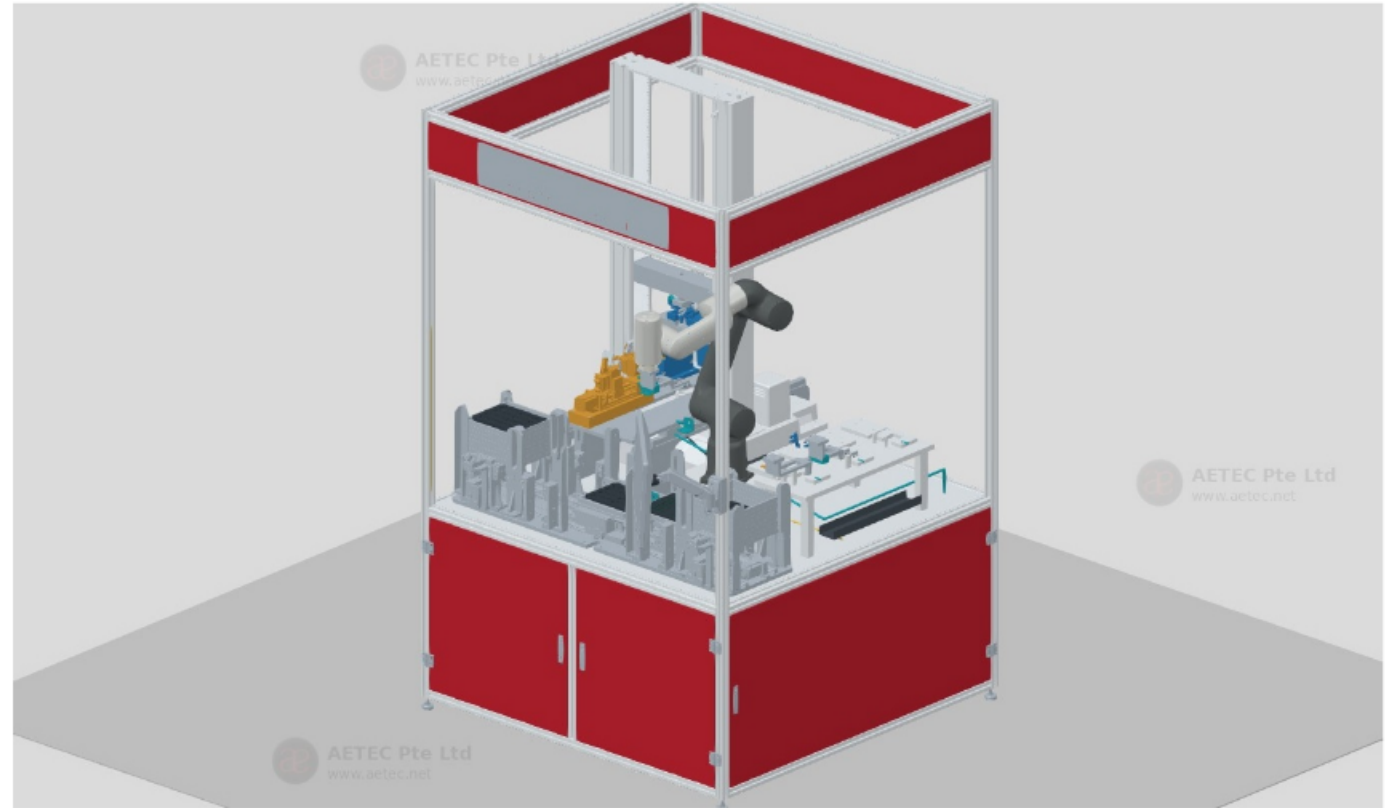
Product recipe and verified tool IDs

02 Handle and test

Robot loads the selected fixture

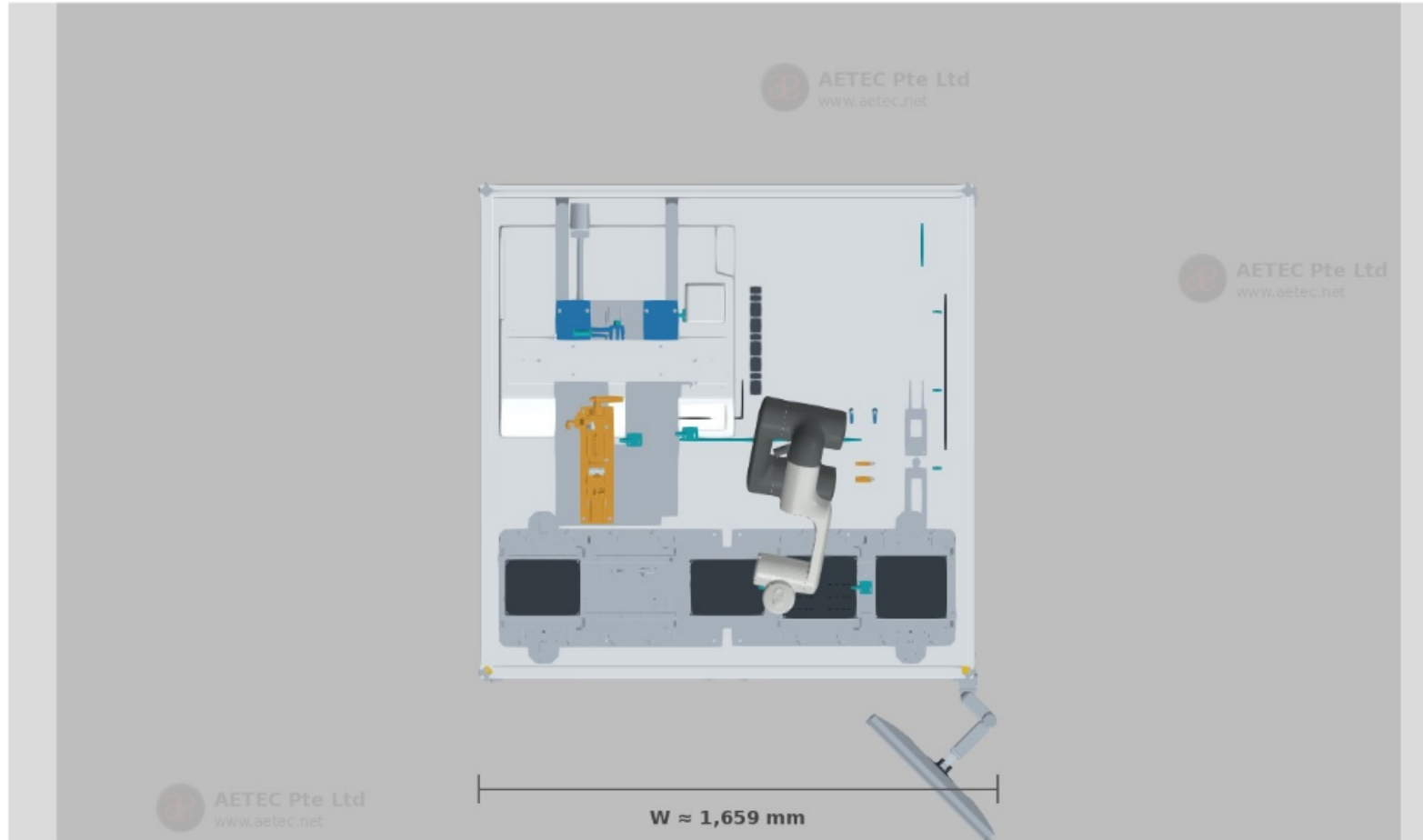
03 Store and unload

Specimen-linked curves and tray location





Cell layout and operating envelope



Approximate cell size

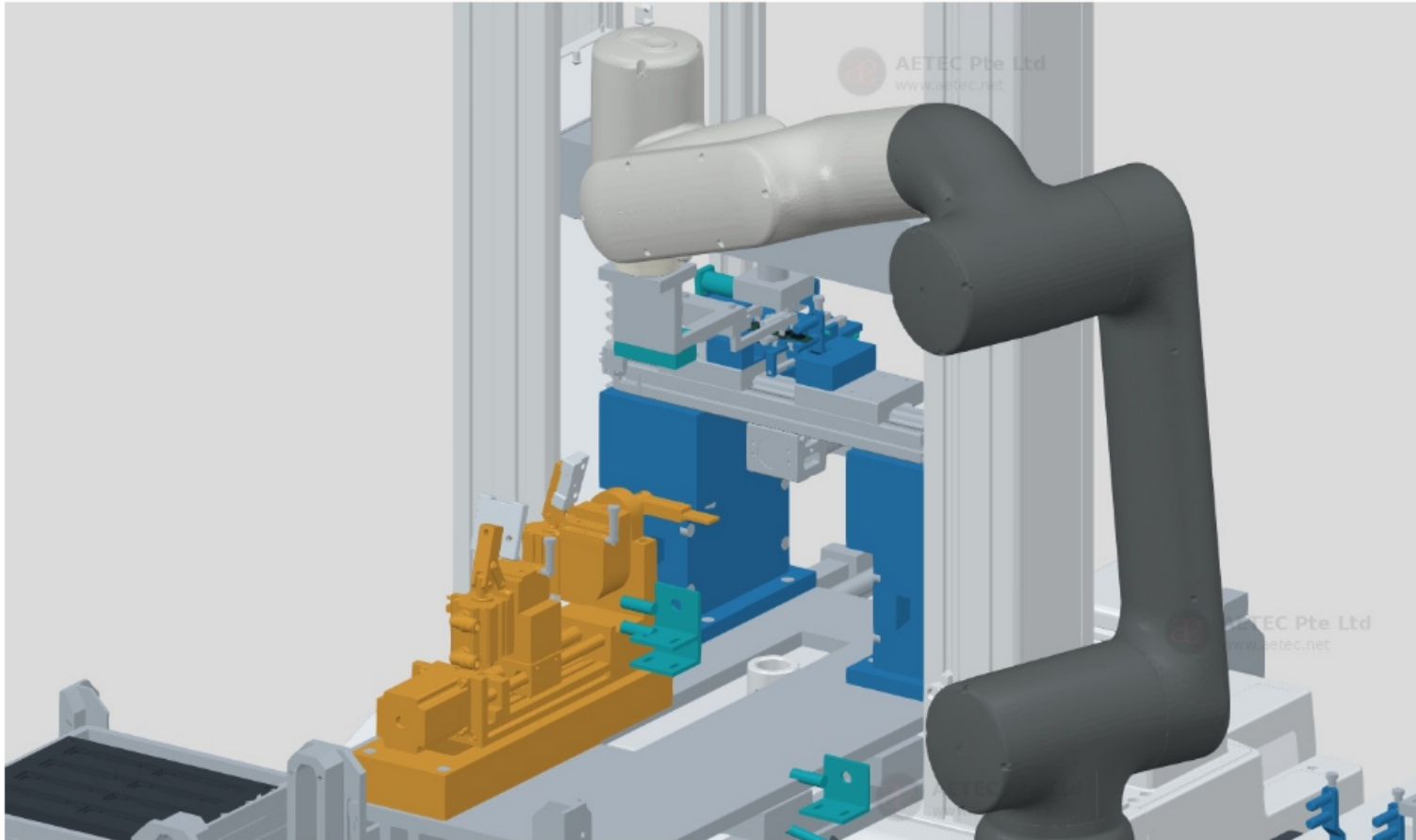
1,659 mm wide
2,116 mm deep
2,500 mm high

Operator-facing loading and
HMI

Service and access
clearances require site layout
approval.



Product handling and ESD control



Open-centre EOAT

Four contact zones keep the test path clear

Verified handling

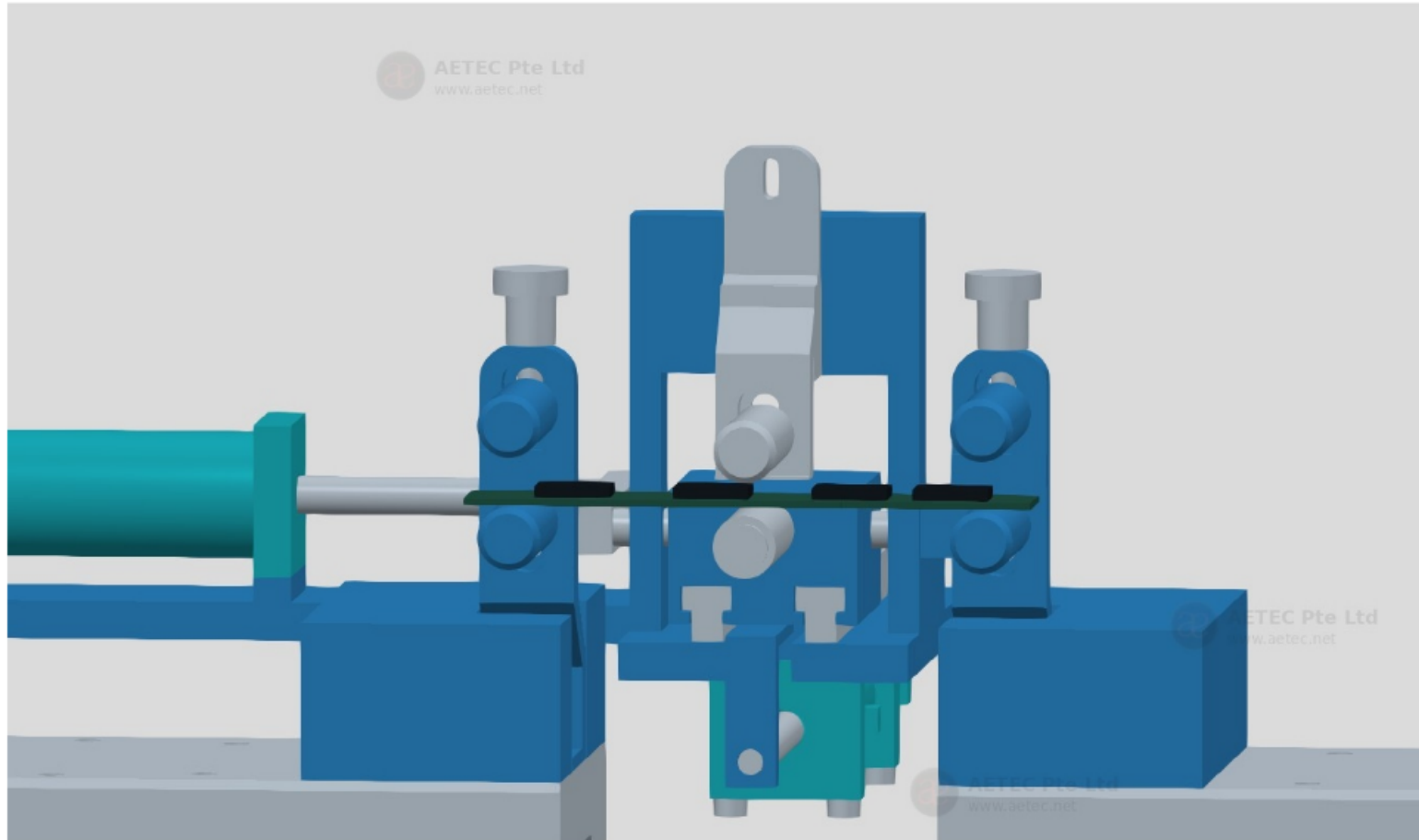
Part presence, tool lock and pressure checks

ESD provisions

Dissipative contacts and bonded machine structure



Six-pin bi-directional bending



Three pairs of pins

Three upper and three lower contact rollers

Central pair moves

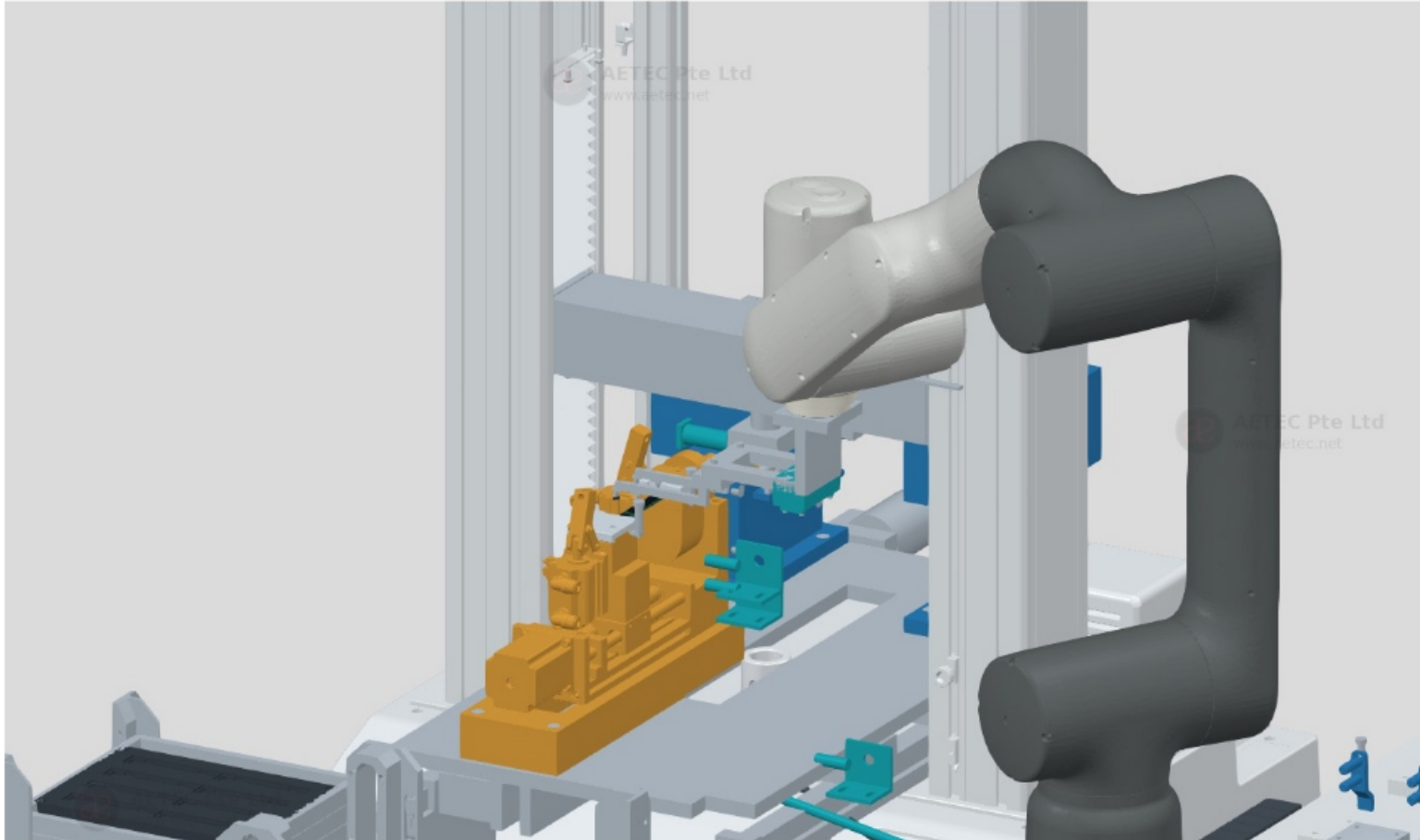
Instron bends the specimen upward and downward

Raised by 150 mm

Level insertion clears the lower torsion fixture



Torsion on the shared shuttle



Selected station locks

Bending moves out and torsion moves under Instron

Pneumatic end clamps

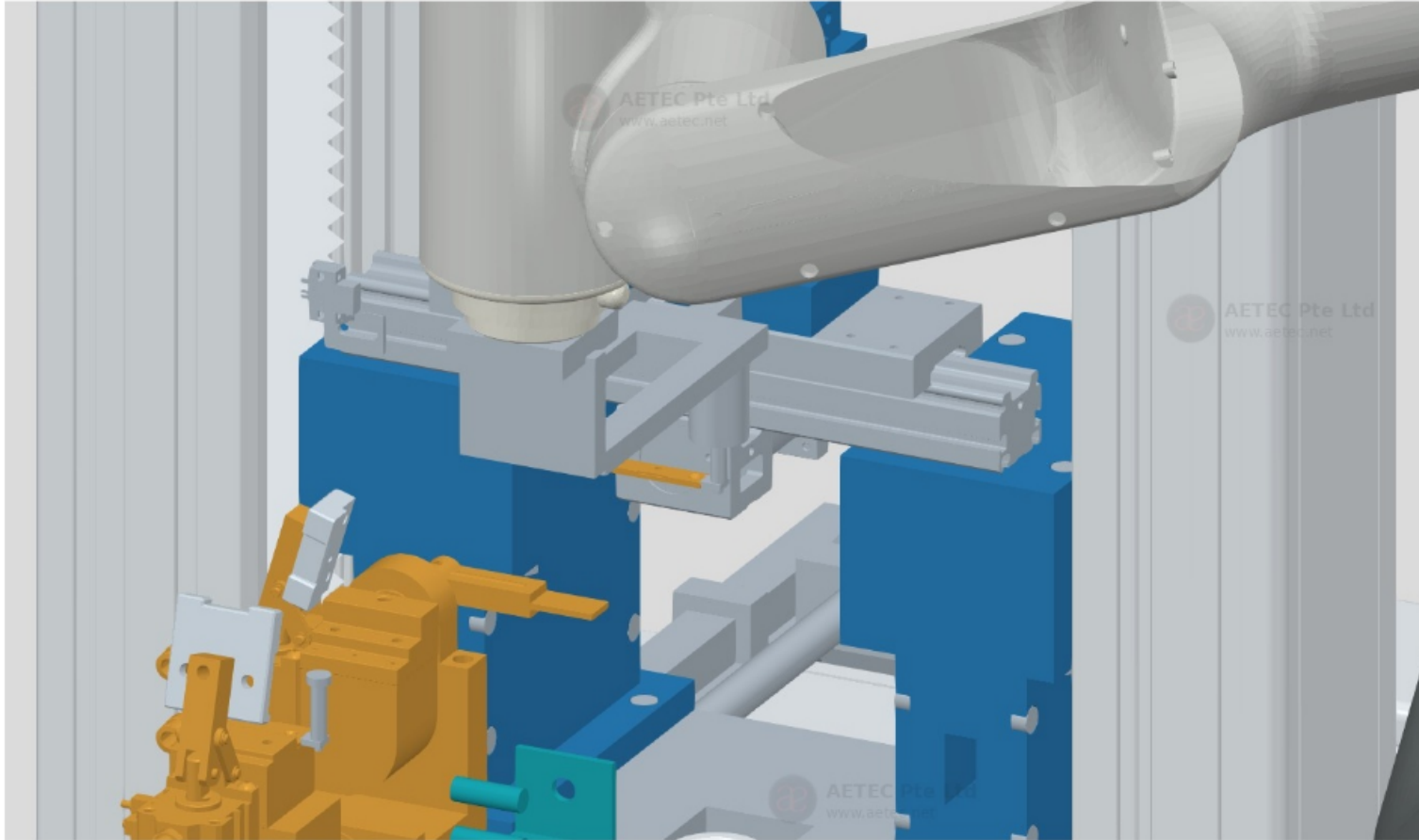
Regulated pressure follows allowable clamp limits

Moment-arm loading

The upper contact loads the torsion lever



Automatic exchange for each product



Dedicated product kit

Gripper, contact clips and test inserts

Repeatable location

Latch-on interfaces and identified magazine nests

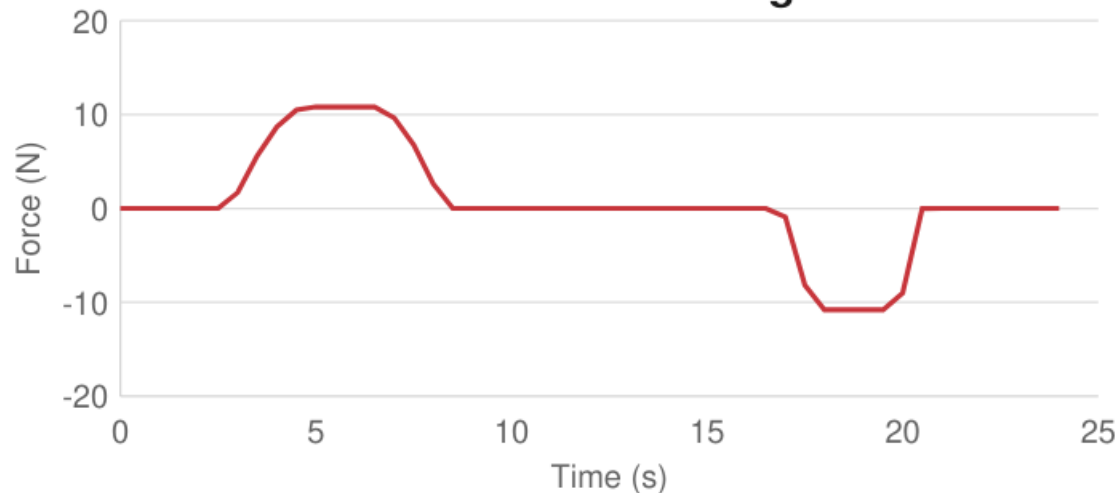
Ten custom trays

Ten total per kit, input/output split to be agreed

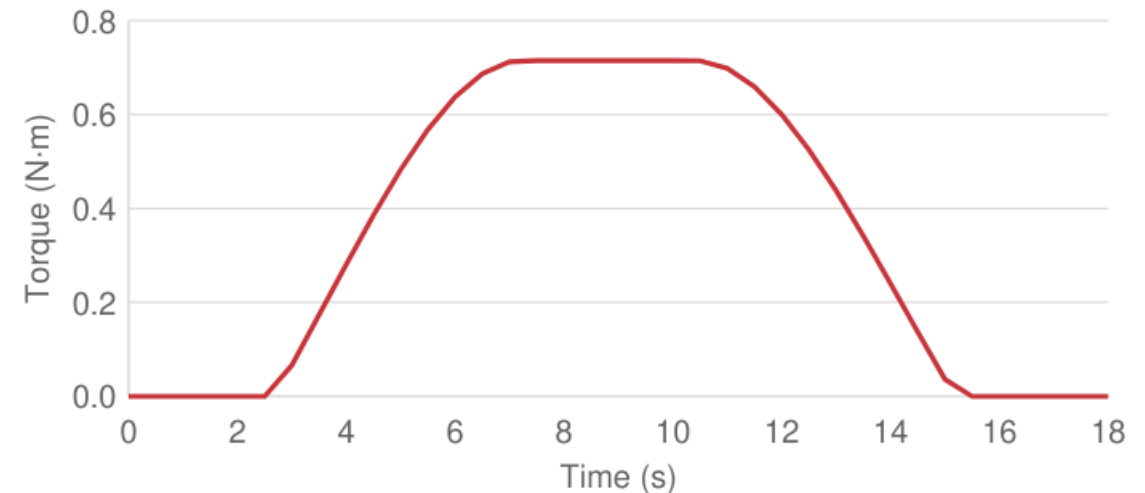


Measurements and Instron integration

Bi-directional bending



Torsion



ARTIFICIAL DATA — demonstration only

Instron / Bluehill adapter

Validated method request
and completion handshake

Raw data archive

Force, displacement and time
linked to each specimen

Derived channels

Stress, torque and angle
use approved calibration



Control, acceptance and future options

Cycle permissions

Verified head pose and fixture lock
Centre-pin position and lock proof
Part grip and pneumatic pressure
Access, ESD and robot-clear signals

Engineering release

Approved product CAD and contact forces
Instron interface and measurement method
Robot, cable and physical clearance checks
FAT, site SAT and operator training

Separately scoped options

Vision / AI inspection, extra products, expanded magazine and cleanroom certification



Budgetary proposal for Product 1

Common automation machine	Amount (USD)
One shared platform and ABB GoFa 5 integration	265,000

Product 1 tooling kit	Amount (USD)
Gripper, holding/test inserts and ten custom trays total	20,000

Initial project total

USD 285,000

Additional product kits: approximately USD 20,000 each, separately quoted.
Estimated lead time: 34–38 weeks. Taxes, duties and freight excluded.