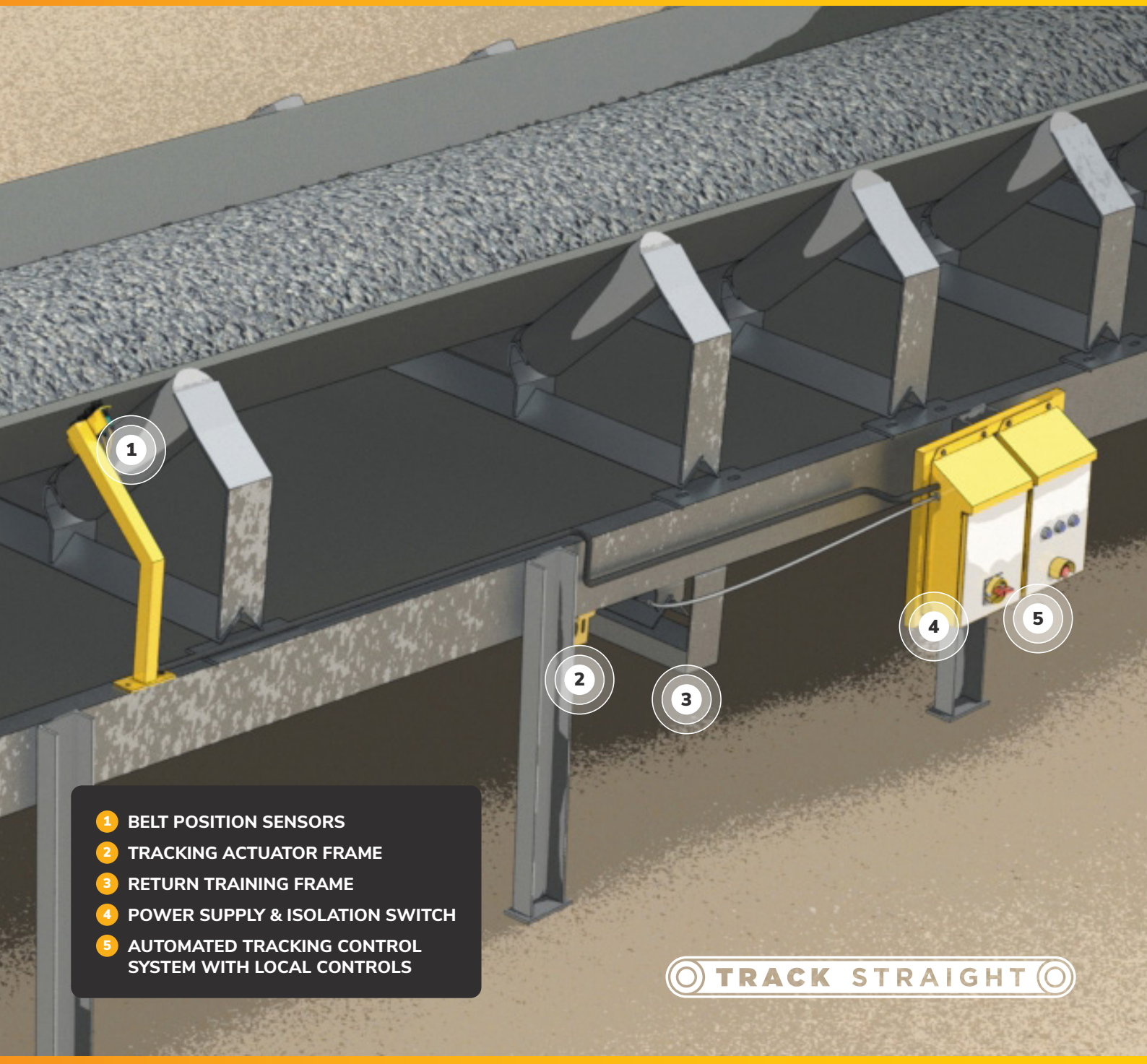
innovative
MINING SERVICES

TRACK STRAIGHT
CONVEYOR ALIGNMENT & TRACKING SYSTEM



1. BELT POSITION SENSORS
2. TRACKING ACTUATOR FRAME
3. RETURN TRAINING FRAME
4. POWER SUPPLY & ISOLATION SWITCH
5. AUTOMATED TRACKING CONTROL SYSTEM WITH LOCAL CONTROLS

TRACK STRAIGHT

For more information and other products, please contact us.

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PRODUCT INFORMATION

AUTOMATIC TRACKING UNIT (ATU)

CASE STUDY INFORMATION

Innovative Mining Services' Automatic Conveyor Alignment and Tracking System is unique as it can detect belt drift in one area of a conveyor and make the tracking adjustments in another area. This is advantageous where tracking issues are caused by different or inconstant feed, creating bias loading to a conveyor. Belt drift can be detected after a feed zone and tracking adjustments made before the feed zone to correct this issue ensuring increased production and minimising downtime for inconsistent feed types, weather or issues requiring maintenance allowing the asset to run productively until scheduled maintenance is available. This results in:

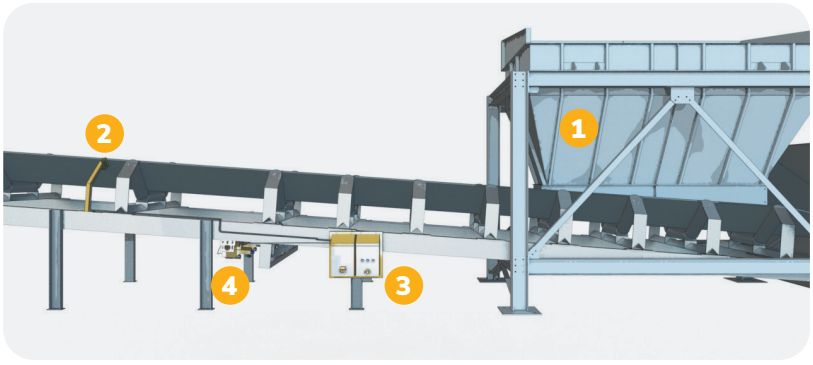
BENEFITS

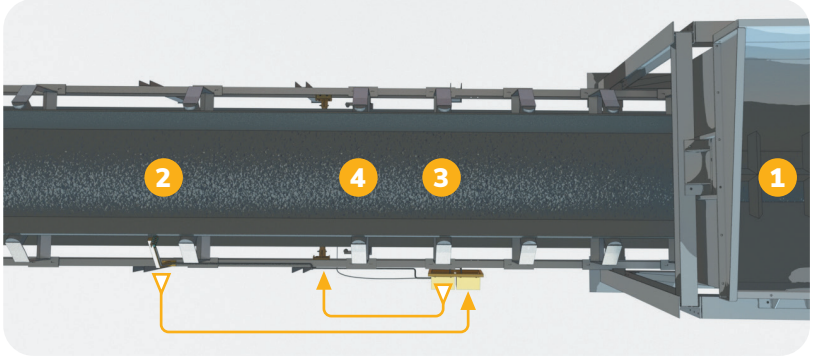
- Retrofits onto existing tracking frames
- Reduced clean-up cost
- No requirements to isolate
- Elimination of live works
- Positive culture change

- **Live adjustment:** Online incremental adjustment for uninterrupted operations.
- **Safe to use:** Low voltage actuator system with local manual control.
- **Reduces risk:** Improves operator safety and removes unsafe behaviours.
- **Easy integration:** Versatile, adaptable, and easy installation.
- **ROI:** Increased efficiency, reduced costs, and higher throughout.
- **Backing:** Expert technical support available.

PROCESS CONTROL LOOP

1. Process variable, anything that adversely effects belt tracking
2. Belt position sensing
3. Control system compares belt position to desired set point
4. Tracking frame electrically actuated to re-align conveyor



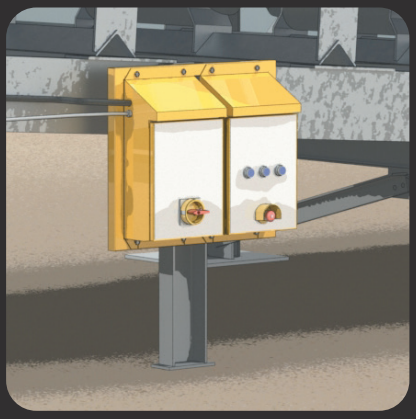


PRODUCT INFORMATION

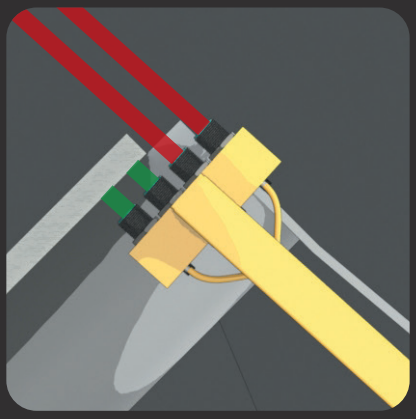
AUTOMATIC TRACKING UNIT (ATU) – OPERATION OVERVIEW

Traditional Tracking Frames use servo/guide rollers to actuate the tracking frame meaning the servo/guide rollers are a mechanical means of detecting belt drift.

Our system uses electronic belt detection or belt drift switches to sense belt drift and relay that information to a tracking frame via a PLC. This allows us to install the belt drift detection in the most suitable position on the conveyor and use this information to actuate a tracking frame placed in a position to make the greatest impact on the conveyor tracking, generally on the return side below feed zone. This is not currently possible via mechanical means.

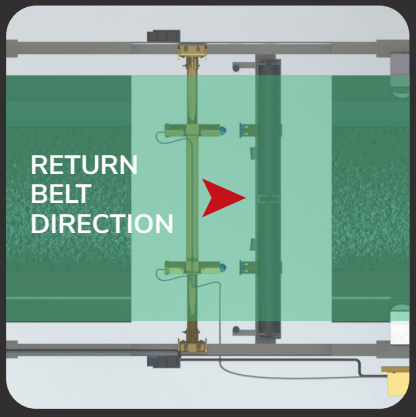


CONTROL BOXES AUTOMATIC AND MANUAL

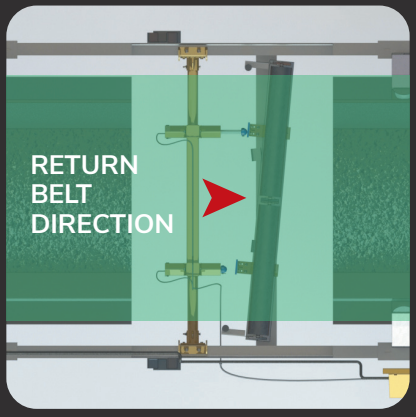


FOUR SENSORS FOR BELT DETECTING POSITION

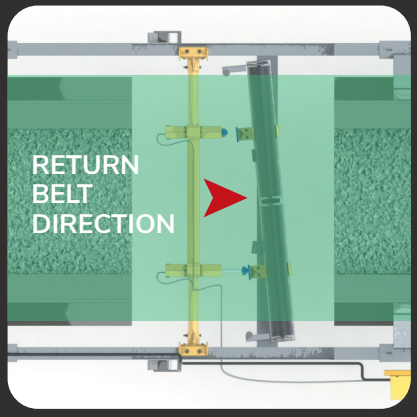
ACTUATORS WITH REACTION PLATES MOUNTED TO TRAINING FRAME



NEUTRAL REST POSITION



TRACKING RIGHT



TRACKING LEFT

HOW WE WORK

At Innovative Mining Services, our team employs a collaborative approach that aligns precisely with our customers' requirements, ensuring we meet all relevant design and manufacturing standards. Our team has the skills and experience to provide support during the customisation and development design phases.

We customise our standard design to accommodate various tracking frames and belt widths in operation. While the core principle remains consistent, we produce custom designs that guarantee optimal functionality. All manufactured solutions are completed using systematic process aimed at delivering products of exceptional quality.

1. Identify Tracking Frame
2. Adapt base unit to suit Tracking Frame
3. Create detailed engineering drawings of the assembly
4. Complete engineering checks
5. Produce Operational and Installation Manual
6. Manufacture with high quality materials and components

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