



DUNDEE SUSTAINABLE TECHNOLOGIES

GLASSLOCK
PROCESS™

CLEVRPROCESS™

CSE:DST

JANUARY 2021

Forward Looking Statements

This presentation contains forward-looking statements that address future events and conditions, which are subject to various risks and uncertainties. Actual results could differ materially from those anticipated in such forward-looking statements as a result of numerous factors, some of which may be beyond the Corporation's control. These factors include: general market and industry conditions, risks related to continuous operations and to commercialization of a new technology and other risks disclosed in the Corporation's filings with Canadian Securities Regulators.

Forward-looking statements are based on the expectations and opinions of the Corporation's management on the date the statements are made. The assumptions used in the preparation of such statements, although considered reasonable at the time of preparation, may prove to be imprecise and, as such, undue reliance should not be placed on forward-looking statements. The Corporation expressly disclaims any intention or obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise, except as required by applicable law.

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Our Mission

**Commercialize novel environmentally friendly,
metallurgical processes for the mining industry.**

Overview

Dundee Sustainable Technologies is engaged in the development and commercialization of environment-friendly technologies for the treatment of materials in the mining industry.

Invested \$40 million developing its processes

Technologies successfully demonstrated and ready for commercialization

54 patents in 18 countries



Industry Challenges

Environmental

- **Cyanide**
 - Jurisdictions have banned or restricted cyanide
- **Arsenic**
 - Industry is turning to deposits with greater concentration of arsenic
 - Few facilities currently treat high arsenic material
 - Industry requires a permanent arsenic disposal process

Metallurgical

- Gold recovery from refractory ores
- Base metals, tellurium or organic carbon in gold ores



DST Solutions

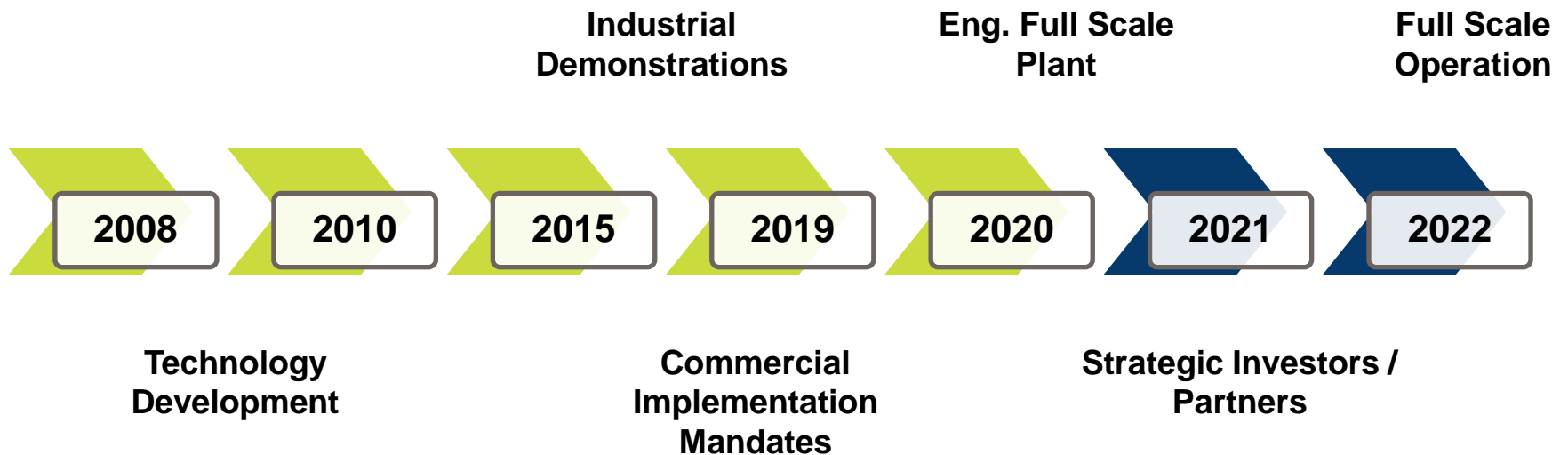
CLEVRPROCESS™

- Cyanide-free gold extraction
- No liquid effluents
- Refractory ores

GLASSLOCKPROCESS™

- Arsenic stabilisation
- Allows access to complex ores
- Permanent disposal solution

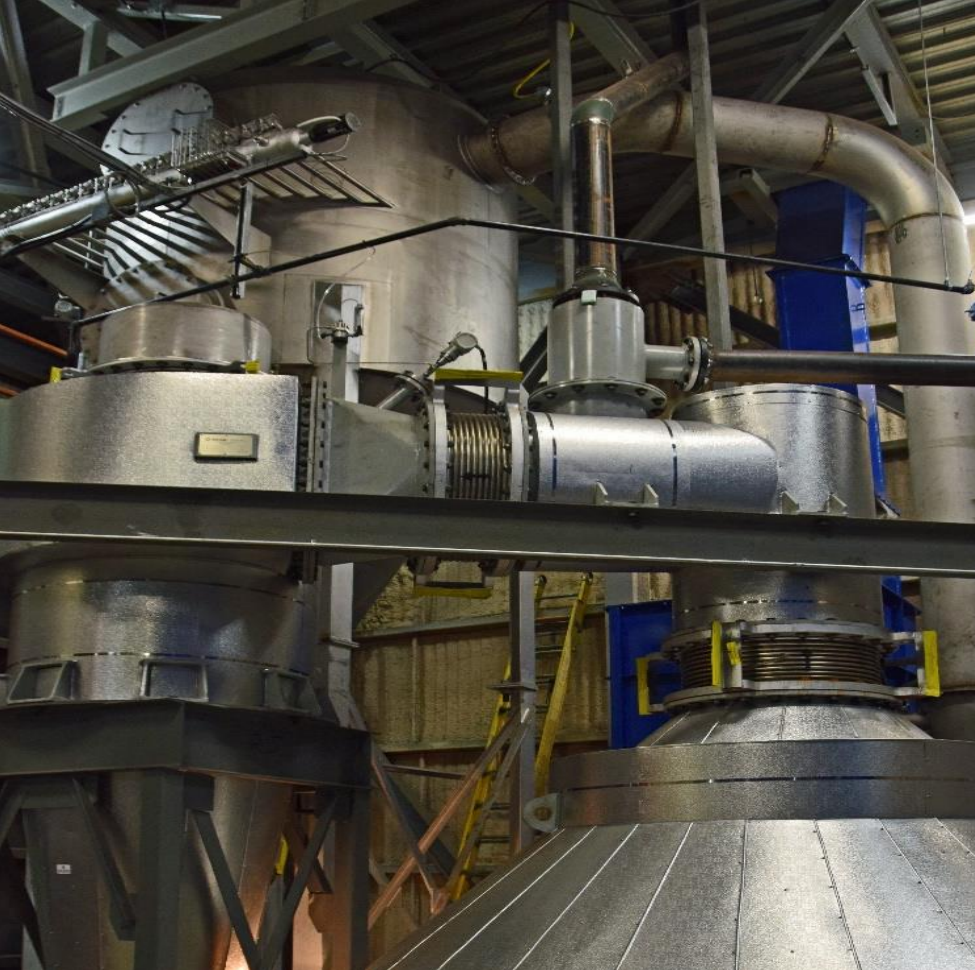
Development Roadmap, Milestones & Catalysts



DEVELOPMENT PROCESS COMPLETED

COMMERCIAL IMPLEMENTATION

CLEVR Process – Gold Extraction Overview



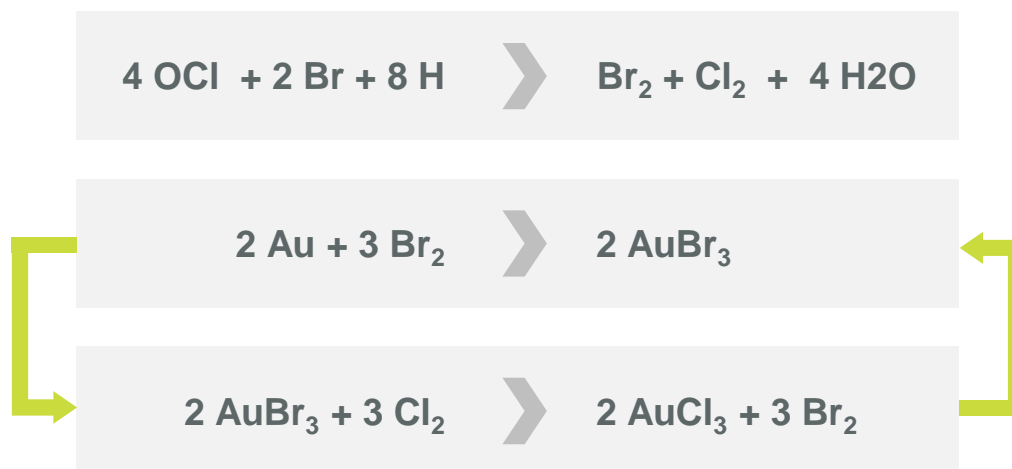
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**DST's Industrial Plant
Thetford Mines, QC**

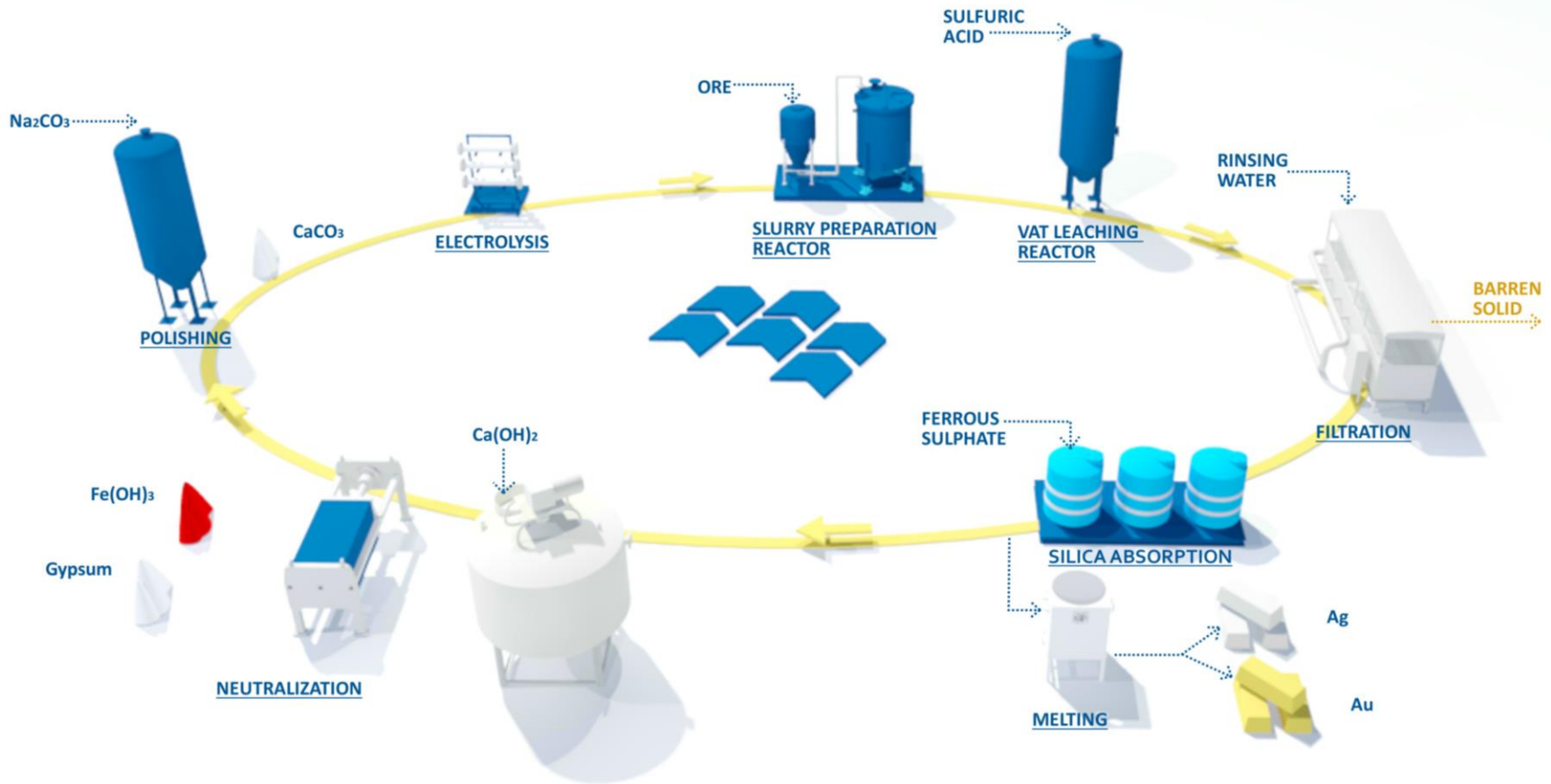
CLEVR Chemistry Involved

Hypochlorite, along with a catalytic amount of hypobromite, are used as oxidizing agents because of the particularly **fast reaction of bromine with gold**.

The capability of chlorine to oxidize bromides to bromine, explains the low concentration of bromide required in the brine.



CLEVR Process - Closed Loop Circuit



Technology Validation

Cyanide-Free Gold Extraction Process

Developed by Dundee Sustainable Technologies Inc.
Thetford Mines, QC, Canada

Registration: GPS-ETV_VR2019-06-30

In accordance with

ISO 14034:2016

**Environmental Management —
Environmental Technology Verification (ETV)**





Arsenic Vitrification The GlassLock™ Process



GLASSLOCK[™]

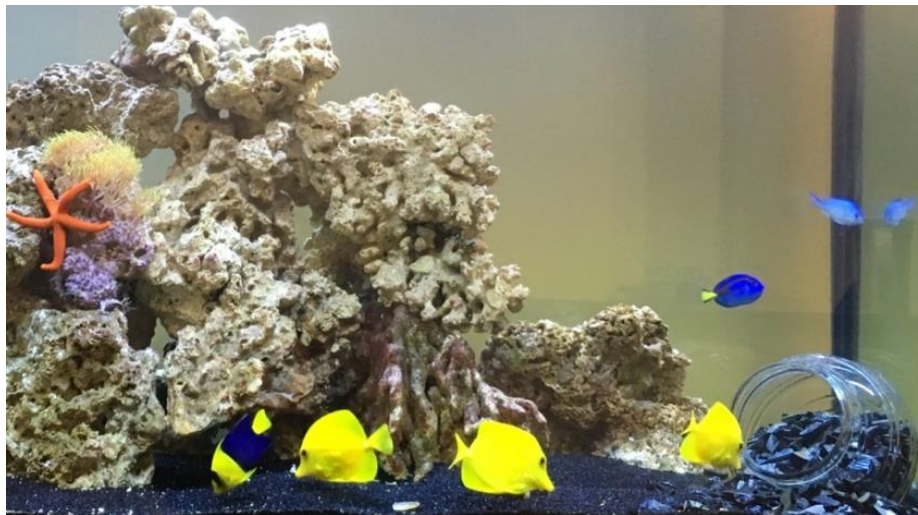
PROCESS

DST's Industrial Plant Namibia, Africa



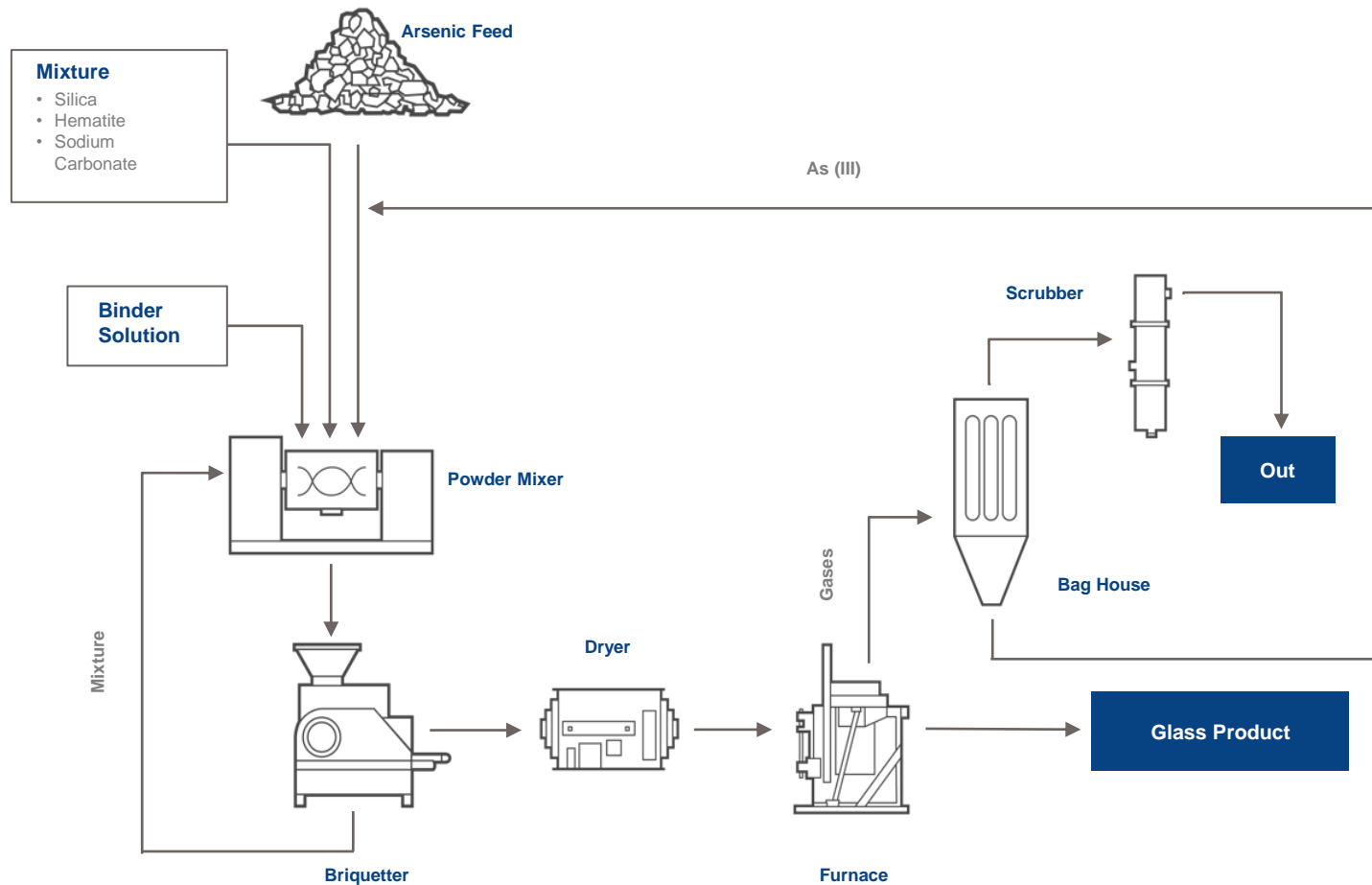
GlassLock™ Process - Arsenic Stabilization

- Stabilization by vitrification
- Intermediate compound that can sustain vitrification temperature
- Produces glass with over 20% As
- 1-2 ppm As, exceeds EPA's TCLP (5 ppm)
- Widely available reagents / equipment



DST aquarium containing arsenic glass

GlassLock™ Process – Circuit



Arsenic Glass Product

Glass Samples & TCLP

| | Sample 1 | Sample 2 |
|-----------------|----------|----------|
| As (%) | 17.5 % | 18.1 % |
| TCLP (mg As /L) | 1.79 | 1.95 |

- Glass density: 2.7
- Amorphous/single phase silica matrix
- Contaminants such as **Sb, Cd, Bi, Te and Pb** present in the dusts would also be stabilized within the glass product.



Technical Services

Technical & Industrial Complex

DST currently possesses the amenities required to perform testing programs at scales ranging from 1 kilogram to 1,000+ tonnes.

- **Laboratory and Analytical Facilities**
- **Process Simulation**
- **Mineral Processing Circuits
(Crushing, grinding, gravity & flotation)**
- **Piloting Facilities**
- **Demonstration Facilities**



Laboratory & hydrometallurgical pilot facilities



Pyrometallurgical & arsenic vitrification pilot facilities



Demonstration plant & comminution circuit

Directors and Officers

Directors

- **Robert Sellars,**
Chairman
- **Brian Howlett**
- **Hubert Marleau**
- **Mario Jacob**
- **Jean-Marc Lalancette,**
Chairman Emeritus

Management

- **David Lemieux,**
President & CEO
- **Jean-Philippe Mai,**
Vice-President, Business
Development
- **Arved Marin,**
Chief Financial Officer
- **Jean Tardif,** General
Manager
- **Patricia Ososio,**
Corporate Secretary



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