



AVALON

ADVANCED MATERIALS INC.

CRITICAL MINERALS FOR A SUSTAINABLE FUTURE

East Kemptville Tin Recovery & Site Remediation Project:

*Profitable rehabilitation
of a closed mine site*

May 2020

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President & CEO

TSX: AVL
OTCQB: AVLNF

CRITICAL MINERALS FOR A SUSTAINABLE FUTURE



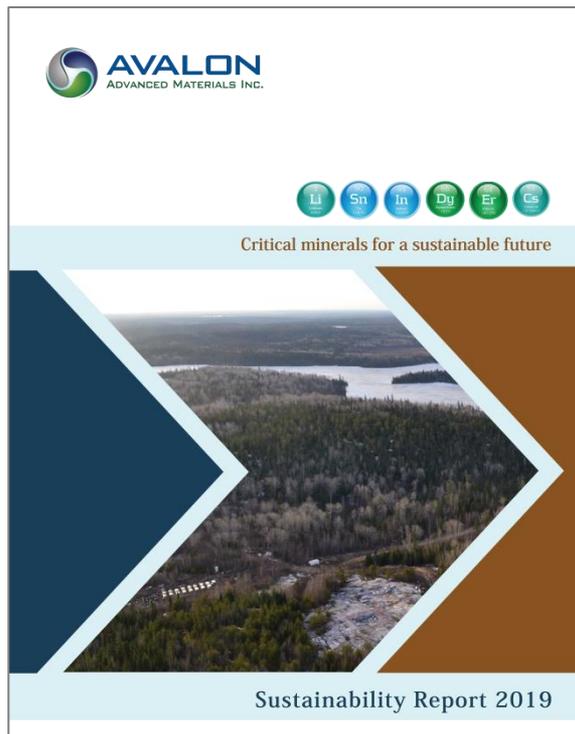


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Who is Avalon Advanced Materials?



- › Toronto-based, operating in Canada since 1995
- › Focused on critical minerals and cleantech materials with near term production potential
- › Listed: TSX (AVL), OTCQB (AVLNF), Frankfurt (OU5)
- › Market Cap: CAD\$15m ((341m S/O, 374m fully-diluted)) with over 20,000 shareholders worldwide

Sustainability: committed to environmentally and socially responsible mineral resource development

- › Avalon's 8^h annual GRI compliant Sustainability Report released November 2019 - addresses GRI framework, UN 17SDGs and MAC's TSM
- › Aligns Avalon's operating philosophy with its cleantech customers and reduces social licence risk

Avalon is a leader in the implementation of sustainability in mineral development

- › Focused on the supply of the critical materials that enable clean technology, such as:
 - renewable energy (tin, indium, REE)
 - energy storage (lithium, tin)
 - electric vehicle motors (REE)
 - space technology, drilling fluids (cesium)
- › Excellent track record for Indigenous community engagement and project participation
- › Sustainability principles fully integrated into corporate culture at all levels
- › Project development philosophy: staged approach to minimize environmental footprint and reduce risk
- › Management team well-experienced in social, environmental best practice and health and safety

Tin is increasingly used in solar panel technology



Above: Current East Kemptville site
Below: Artist rendering of site post-closure



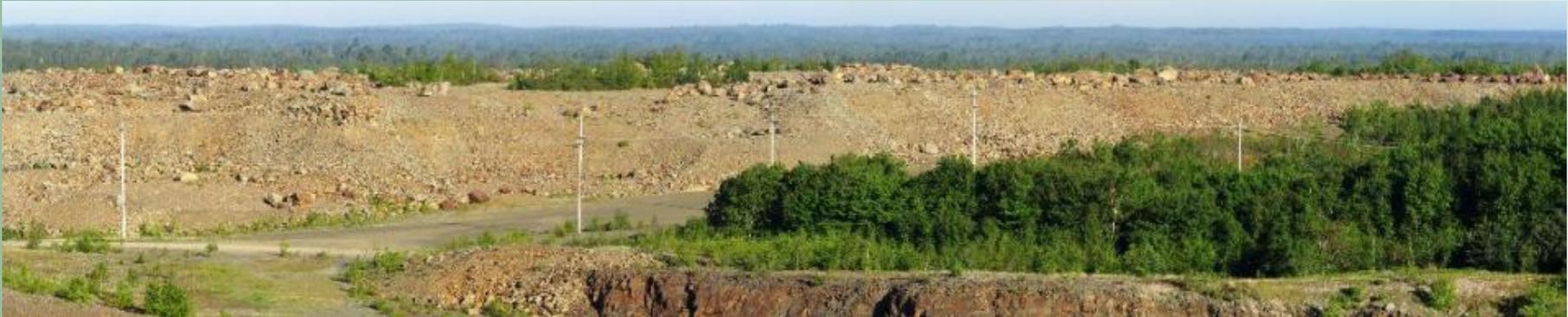
East Kemptville Tin: closed mine site with value in the wastes

- › Operated by Rio Algom Ltd as a closed mine site since 1992, with water treatment system to manage acid mine drainage from stockpiles and tailings
- › During the early years of operation, tin recoveries were less than 50% and associated metallic mineralization (copper-zinc-indium-gallium) was not recovered at all
- › Therefore the stacked tailings, which are the main source of acid mine drainage, have very high contents of valuable metals that can be recovered economically using new process technologies
- › Avalon's model is to sustainably fully rehabilitate the site starting with processing low-grade stockpiles using ore-sorting technology, then re-processing the tailings and recovering dissolved metals from the acid mine drainage

Two Composite Views of Low Grade Ore Stockpile at East Kempville



6 million tonnes of previously-mined tin ore now generating AMD



Can be re-processed to recover tin and remove need for perpetual water treatment

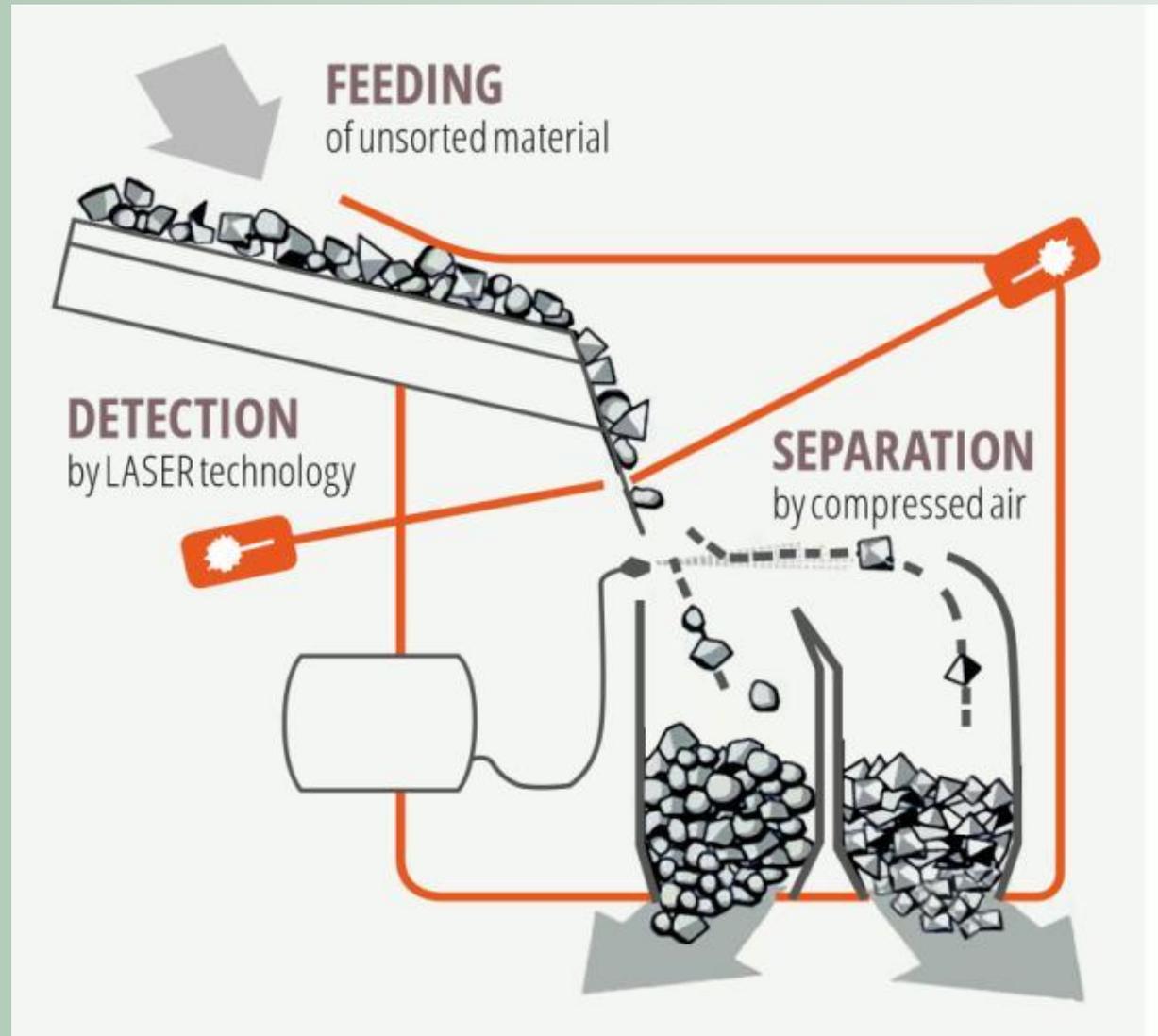


Sensor-based Ore-sorting Technology

Currently being tested by Cronimet to recover tin concentrates

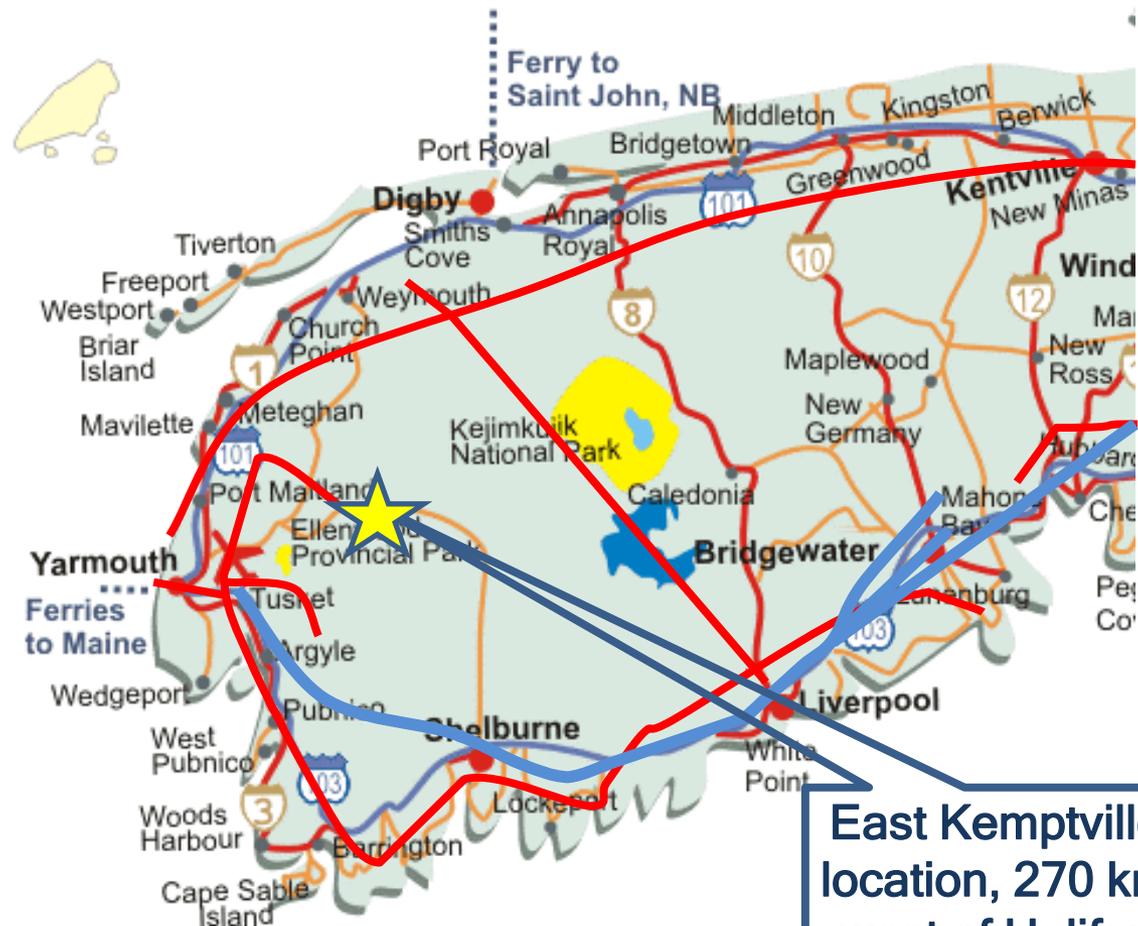
Advances in sensor technology now allow for detection of physical properties of minerals, such as specific gravity

Minerals can be concentrated after crushing **without using water or chemical reagents**



East Kemptville Location and Regional Infrastructure

- › On paved highway
- › Grid power on site
- › Yarmouth (55 km) & other communities within commuting distance
- › Ample water
- › Skilled labour available locally
- › Strong local community support (TREPA, AFN)



East Kemptville Site Layout and surface resources



Existing Tailings Dam with spare capacity, 18.8 M tonnes historical tailing

North Waste Pile: 1.29M tonnes @ 0.089% tin`

Low-grade Stockpile Inferred Resource: 5.87M tonnes @ 0.112% tin*

In-ground resources:
 Indicated: 18.5Mt @ 0.176% tin
 Inferred: 17Mt @ 0.148% tin
(Resources as of October 31, 2014 (NR 14-13) Don Hains (P.Geo) is QP under NI 43-101)

Main Zone Pit
 Baby Zone Pit

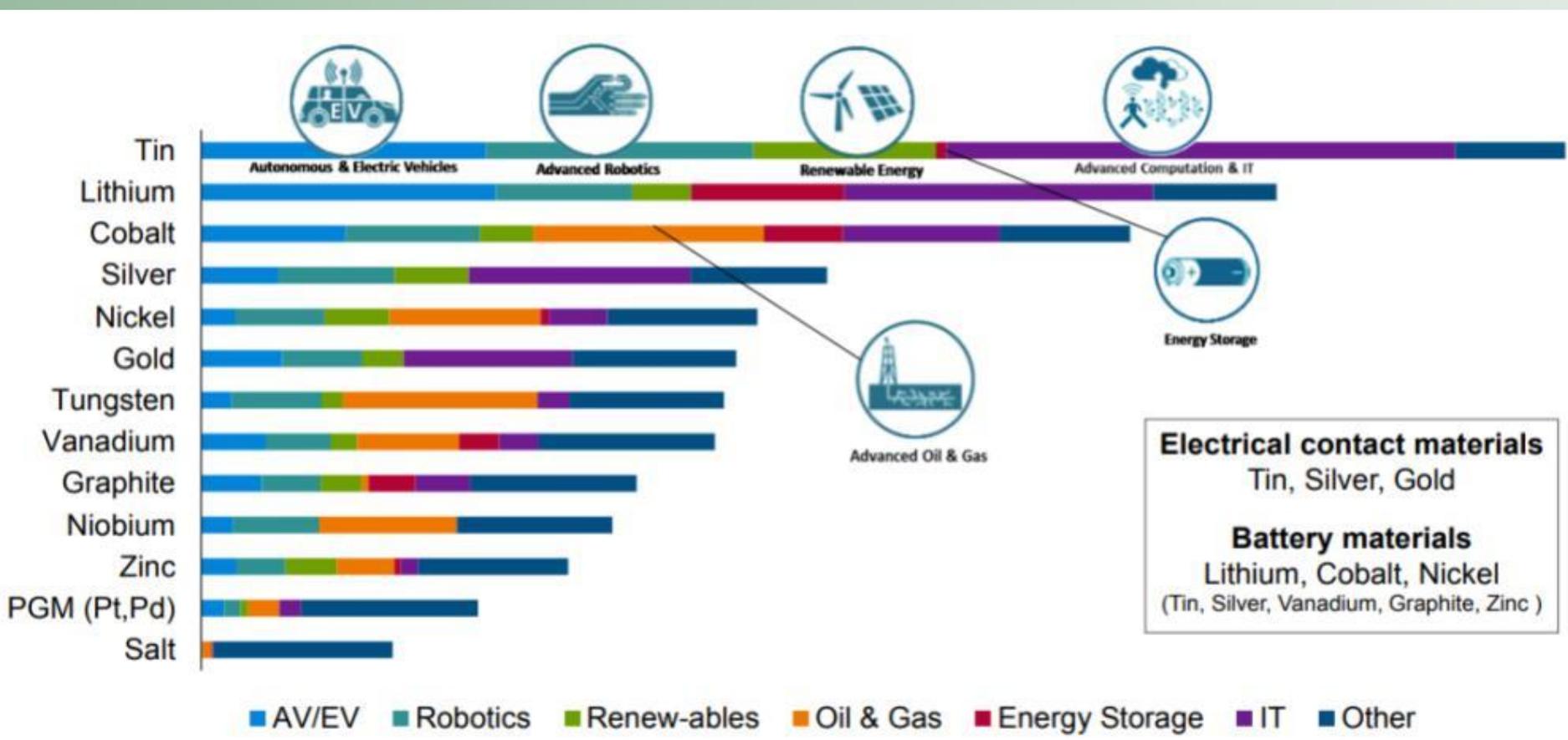
**Historic resource prepared by previous operators, not treated by the Company as NI43-101 defined resource estimates and should not be relied upon.*

**The stockpile resources are considered Inferred under NI43-101 guidelines and should therefore not be relied upon*

Consultation with Acadia First Nation

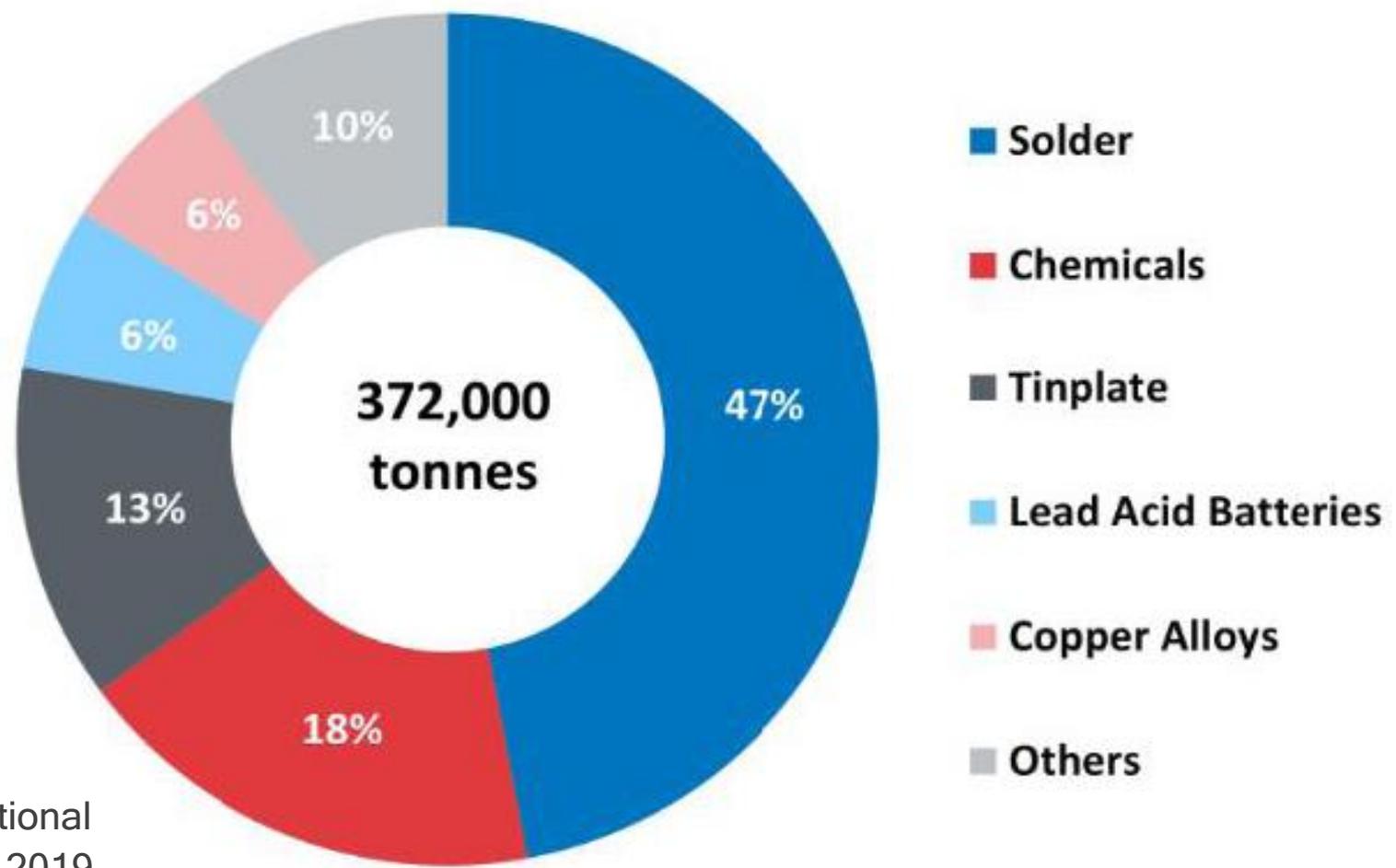
- › Initiated in 2009 with Chief Robinson
- › Initial drilling program in 2014 included \$24k core box production contract in 2015 with AFN
- › Discussions accelerated in 2017-18
- › Now working toward completion of MOU and participation agreement
- › Opportunities include:
 - Contracts, jobs and training
 - Closure and productive use/reuse of the site
 - Environmental monitoring including air, water, SARA and wildlife management plans
 - Long term engagement plan, including additional engagement with AFN members
 - Participation in Public Liaison Committee

Metals Most Impacted by New Technology: *Tin is No. 1!*



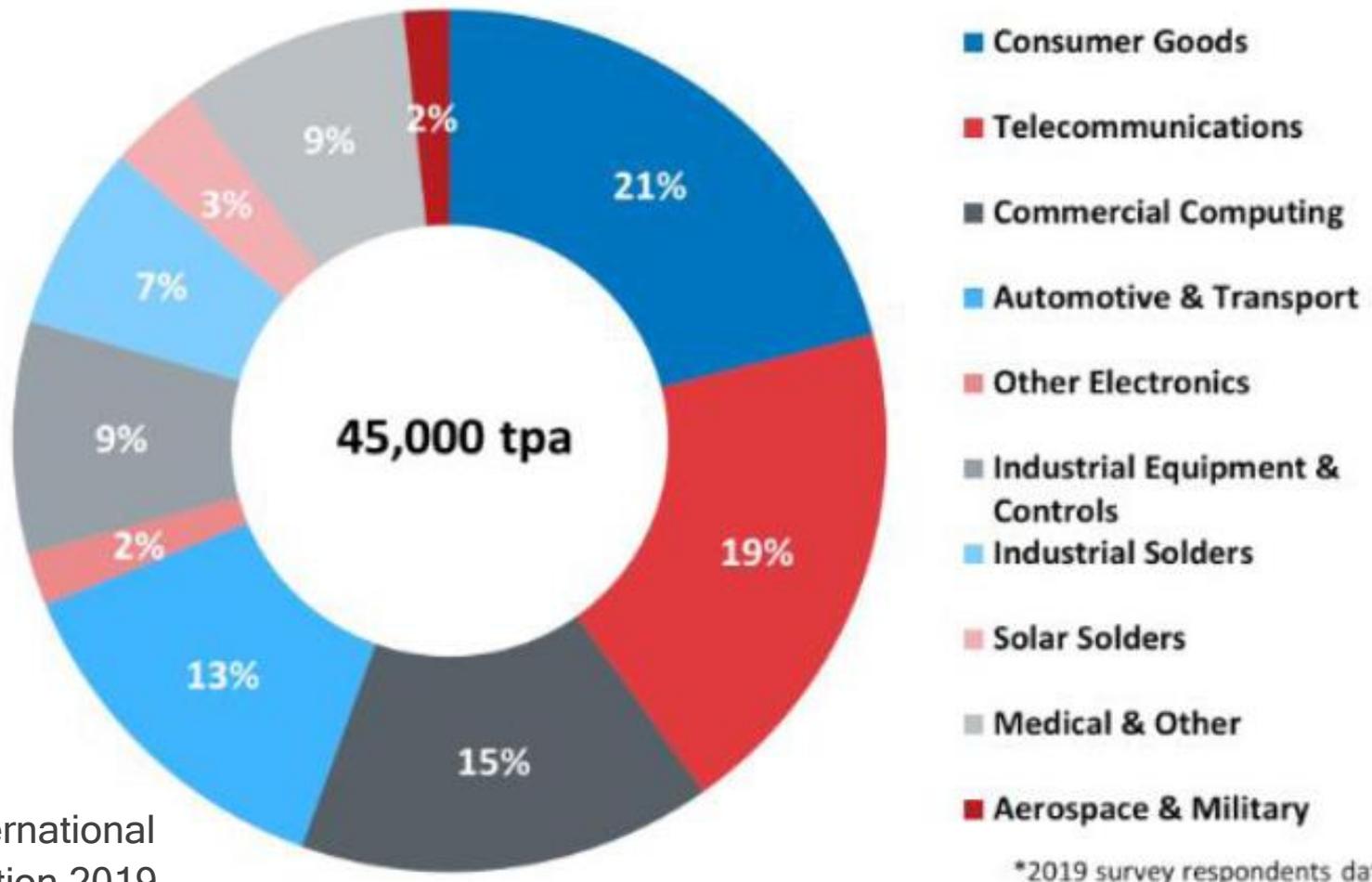
Source: MIT / Rio Tinto , March, 2018

Global tin use by application (2018)



Source: International Tin Association 2019

End use sectors for solders (2018)



Source: International Tin Association 2019



Tin markets create opportunity

- › Demand for tin increasing due to use in electronics as a lead-free solder and other emerging applications in clean technology (Li-batteries, solar panels)
- › Supply becoming restricted as traditional low-cost placer resources in SE Asia are exhausted
- › East Kemptville can be approved, constructed and into operation relatively quickly, utilizing mined ore stockpiles
- › Small scale project has positive economics at current prices while remediating the environmental liability and creating a new supply of conflict -free tin concentrates

www.AvalonAdvancedMaterials.com

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