

# We Believe that **MATERIALS SCIENCE** Changes the World

Almost every great advancement in technology can be attributed to a breakthrough in materials science. Since the company's founding in 1934, Indium Corporation has been driven by its curiosity to look at materials from a different perspective—transforming the ordinary into the unexpected.





# Respect



Appreciation



Achievement



It is our culture—  
The Indium Way—that  
continually supports our  
commitment to changing  
the world through  
materials science.

## The **Indium** Way.

respect. appreciation. achievement.

### Greg Evans

Chief Executive Officer

# OUR GOAL YOUR SUCCESS

Increase our customers' productivity and profitability through premium design, application, and service of advanced materials.

## OUR BASIS FOR SUCCESS

- Excellent product quality and performance
- Technical and customer service
- Cutting-edge material research and development
- Extensive product range
- Lowest cost of ownership

**Ross  
Berntson**

President and  
Chief Operating Officer  
(COO)



# SINCE 1863...

## Indium metal is first discovered

in 1863 by Ferdinand Reich and Hieronymus Theodor Richter. For years, the capabilities of this incredible resource were unknown until Dr. William S. Murray investigated its physical and chemical properties in 1924 in Utica, NY, USA.



Indium Corporation **begins the development of solder pastes**—the first step in a long history of developing high-reliability solder pastes that address industry challenges, comply with regulation updates, and surpass industry testing standards.

Indium Corporation **develops the first ultra-low residue no-clean flip-chip fluxes** for the semiconductor industry—the NC-26 series.

Indium Corporation **launches innovative high-reliability alloy Durafuse®** technology.



1863

1934

1952

1977

1991

2014

2019

2021

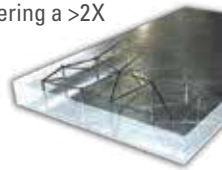
Indium Corporation is founded at 805 Watson Place, Utica, NY, USA.



Indium Corporation **develops a commercially viable process for the manufacture of precision solder preforms**, enabling the mass production of alloy-junction transistors.



Indium Corporation develops and **introduces InFORMS® solder preforms**, which solve substrate tilt by providing the most uniform bondline control—offering a >2X increase in reliability.



Indium Corporation **earns ISO/IATF 16949 management system certificates** for all of its solder paste and preform manufacturing facilities in Clinton and Utica, NY, USA; Singapore; Milton Keynes, UK; and China—as well as the company's headquarters—reaffirming Indium Corporation's materials are produced with the utmost quality to ensure the reliability of customers' finished goods.



# OUR COMMITMENT TO QUALITY

- Provide **quality products** that meet or exceed customer needs, expectations, and requirements
- Create an **organizational culture** that focuses on meeting requirements and continuous improvement
- Have **products that are compliant** with relevant laws and regulations
- Focus on **defect prevention**
- Respond to **input from external and internal customers**
- Identify and provide **necessary resources**



**Brian Reid**  
Vice President of Global Operations

# CODE OF CONDUCT

Indium Corporation's professional commitment to our customers, our peers, our organization, and ourselves includes a defined Code of Conduct that covers:

- **Ethics**
- **Workforce**
- **Health and Safety**
- **Environment**
- **Management Systems**

# INDIUM PEOPLE CARE

We're also active in our local communities through volunteering, sponsorships, and mentoring.





**From One  
Engineer  
To Another<sup>®</sup>**

**Indium Corporation** is a premier materials refiner, smelter, manufacturer, and supplier to the global electronics, semiconductor, thin-film, and thermal management markets.

We develop, manufacture, and market solders; electronics assembly and packaging materials; pure indium, gallium, germanium, and tin; as well as alloys and inorganic compounds. We offer a closed-loop reclaim system for these metals.

Indium Corporation's scientists, application engineers, and technical support engineers work closely with our customers to develop custom solutions to their technical problems and optimize their processes to:

- Increase yields
- Increase revenues
- Improve customer satisfaction
- Reduce defects
- Deliver high value and return on investment

## **INNOVATIVE RESEARCH LABS**

### **Advanced Materials and Process Development Labs:**

To fully characterize materials and processes in leading-edge technology applications.

### **Thermal Lab:**

To analyze the thermal resistance and conductivity properties of thermal interface materials to help determine the optimal applications.

### **Research and Development Labs:**

To advance materials science for the creation of new and unique products.

### **Tech Hubs:**

To provide for the effective development of electronics assembly expertise and customer service.



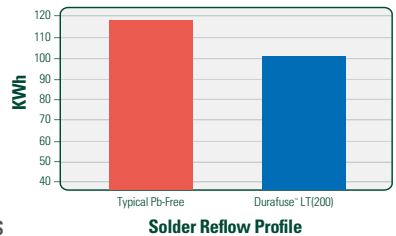
# SUSTAINABILITY INITIATIVES



As a key manufacturer and supplier to the global markets, **Indium Corporation**® is committed to environmental responsibility, which is vital to the sustainability of our business, our products, our brand, and our place in the community. Our scientists and engineers work closely with our customers and partners to apply materials science-based innovations in the electronics industry—from increasing a product’s lifespan to our state-of-the-art electrolytic recycling processes. As your strategic partner, **Indium Corporation**® works together with you to reduce the environmental impact of electronics manufacturing. Here are some ways we are helping minimize the environmental footprint within electronics assembly and packaging.

- REACH-compliant materials
  - Majority of our solder fluxes
- Lead-free and Halogen/Halide-free products
  - Lead-free high-temperature replacement materials
- Low-temperature processes and materials
  - Reducing assembly energy consumption and carbon footprint in the electronics assembly process
- Recycled tin materials
- Supplier of Reclaim and Recycle services
  - Dross reclaim
  - Indium-containing materials, such as InP, ITO, and used targets

**Reflow Oven Energy Consumption**  
Consumption Measured Over 12 Hour Shift



## Vision

It is our vision to be the world’s preminent cutting-edge materials research and development manufacturer who maximizes its abilities in resource stewardship and natural resource sustainability, enabling the increasingly sustainable processes and products for our clients, industry, and the globe.



# MARKETS SERVED

MARKETS



**Auto/EV**



**Advanced  
Packaging**



**Battery**



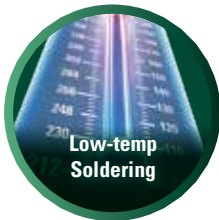
**Connectors**



**E-Mobility  
Charging/BMS**



**High Performance  
Computing & Server**



**Low-temp  
Soldering**



**Medical**



**Metal Refining  
& Reclaim**



**Network**



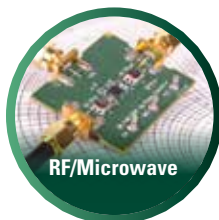
**PCBA**



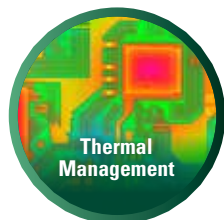
**Photovoltaic**



**Quantum Dots**



**RF/Microwave**

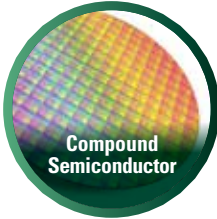


**Thermal  
Management**



# WORLD-CLASS ENGINEERING

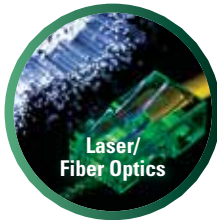
From Design to Production



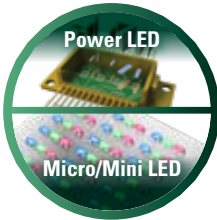
Compound  
Semiconductor



Industrial



Laser/  
Fiber Optics

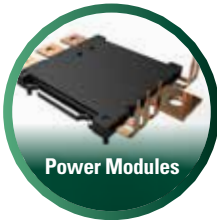


Power LED

Micro/Mini LED



Mobile



Power Modules



Power Passives

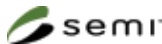
**1,400+**  
EMPLOYEES

**16** FACILITIES

**90+ years**  
OF CONSISTENT  
GROWTH

#### Quality Certifications/Compliance

- IATF 16949:2016
- REACH
- ISO 14001:2004
- RoHS
- ISO 9001:2015
- IMDS



## CUTTING-EDGE

# SEMICONDUCTOR & ADVANCED ASSEMBLY MATERIALS

**Our materials enable the manufacture of strong, reliable products** that endure the inevitable physical shocks and thermal stresses associated with electronics devices and miniaturization. This versatility extends across a spectrum of applications where AI integration and communication between devices are increasingly prevalent. The applications range from IoT devices, to next-generation, low-energy servers and devices harnessing high-performance computing capabilities, and the sophisticated electronics found in automobiles.

## We provide solutions for:

- Heterogeneous integration/ system-in-package
- 2.5D and 3D devices
- Chip-on-wafer and interposer
- Flip-chip on substrate and leadframe
- Ball grid array (BGA) and wafer-/panel-level packages
- Mini/microLED devices
- Power/analog discretes and small modules (<600V)
- High-voltage power modules (>600V)
- Specialty small component assemblies



**Sze Pei Lim**  
Senior Global  
Product Manager

[www.indium.com/SAAM](http://www.indium.com/SAAM)

# ADVANCED ELECTRONICS ASSEMBLY MATERIALS

The electronics industry continues to rapidly evolve to increasingly smaller, more sophisticated devices with increased power. Indium Corporation is known as the global leader in R&D, product performance, technical service, and process optimization. We are also partners with most of the world's leading electronics manufacturers.

## Our high-reliability solutions include:

- Solder pastes
- Flux-cored wires
- Wave solder fluxes
- Bar solder
- Tacky fluxes
- Solder preforms
- PoP fluxes and pastes
- And more



## Chris Bastecki

Director of Electronics  
Assembly Materials

ADVANCED

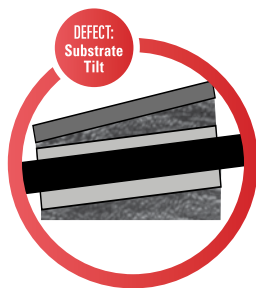
PRECISION

# PRECISION ENGINEERED SOLDER MATERIALS

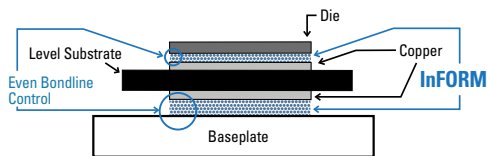
Our precision solder preforms are available in a wide range of problem-solving alloys, with exacting tolerances and creative packaging to **provide the basis for our customers to create next-generation technologies.**

## We provide solutions for:

- Reflow of temperature-sensitive components
- Voiding
- Solder starvation
- CTE mismatch
- Mechanical and electrical reliability
- Bondline planarity



SOLUTION:  
InFORMS®



**Jon Major**  
Associate Director  
ESM Product Management



# PREMIER THERMAL INTERFACE MATERIALS

Indium Corporation's high-performance metal-based thermal interface materials (TIMs) **provide industry-leading thermal performance and overall product life.** Our innovations have expanded upon the high thermal conductivity of metal by creating unique patterning options and hybrid solutions that eliminate the interfacial resistance challenges normally associated with metal TIMs.

**Our research has created critical thermal management products, including:**

- Heat-Spring®
- Solder TIMs
- m2TIM™
- Liquid Metal Paste
- Liquid Metal



PREMIER

# LEADING METALS & COMPOUNDS

From the mine to product packaging, we set the standard for the processing of indium, germanium, gallium, and tin. The process is controlled from step one to assure the highest level of quality.

**Indium Corporation is the world's premier supplier of:**

- Commercial-grade and ultra-high-purity indium metal
- Indium compounds
- Germanium metal and compounds
- Gallium metal and compounds
- Tin metal and alloys
- Fusible alloys, including Field's metal
- Targets
- Reclaim services



## **Robert Ploessl**

Manager of Marketing and Technology  
Assessment and Product Manager,  
Metals and Compounds



[www.indium.com/metals](http://www.indium.com/metals)  
[www.indium.com/compounds](http://www.indium.com/compounds)

# PROGRESSIVE HIGH-TEMP SOLDER MATERIALS

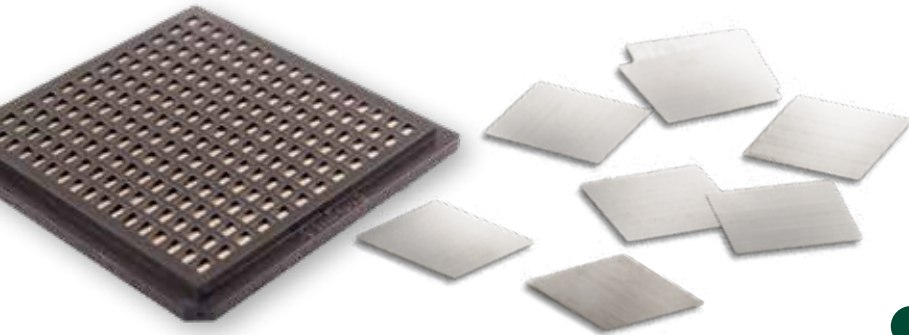
When even 10ppm of contamination can cause process and application failures, quality counts. **We cast our own alloys, which enable us to closely control the process from start to finish and ensure purity.** This is why we are a leading innovator of joining and bonding materials for medical, aerospace, optoelectronics, and automotive applications.



**Jeff Anweiler**  
Senior Product Manager

## High-Temperature Gold Solder Materials Deliver:

- Highest tensile strength of any solder
- Compatible with subsequent reflow processes
- Pb-free and RoHS compliant
- Superior thermal conductivity
- Resistance to corrosion
- Superior thermal fatigue resistance
- Good joint strength
- Excellent wetting properties
- Resistance to oxidation



# INDIUM CORPORATION WORLDWIDE

## Our Goal

Increase our customers' productivity and profitability through the design, application, and service of advanced materials.

## Corporate Quality Policy

- Provide quality products that meet or exceed customer needs, expectations, and requirements
- Create an organizational culture that focuses on meeting requirements and continuous improvement
- Have products that are compliant with relevant laws and regulations
- Focus on defect prevention
- Respond to input from external and internal customers
- Identify and provide necessary resources

## Materials Supplier

- SMT and SiP solder pastes and fluxes
- Power semiconductor die-attach
- Semiconductor fluxes
- Thermal interface materials
- Engineered solders
- Inorganic compounds
- High-temperature solder materials

## Global Technical Support and Facilities Worldwide



Contact our engineers: [askus@indium.com](mailto:askus@indium.com)

Learn more: [www.indium.com](http://www.indium.com)

## From One Engineer To Another®

*All of Indium Corporation's solder paste and preform manufacturing facilities are IATF 16949:2016 certified.  
Indium Corporation is an ISO 9001:2015 registered company.*

