

Mission

We solve issues surrounding rare metals by “Emulsion-flow.”

Rare metals are indispensable in high-tech industries.

However, currently, the supply of rare metals is unstable because of the reliance on imports; this greatly impacts the development of a decarbonized society.

In particular, a stable supply of rare metals is necessary since an increase in the number of electric vehicles, triggered by the recent trend toward carbon neutrality, will accompany the shortage of rare metals.

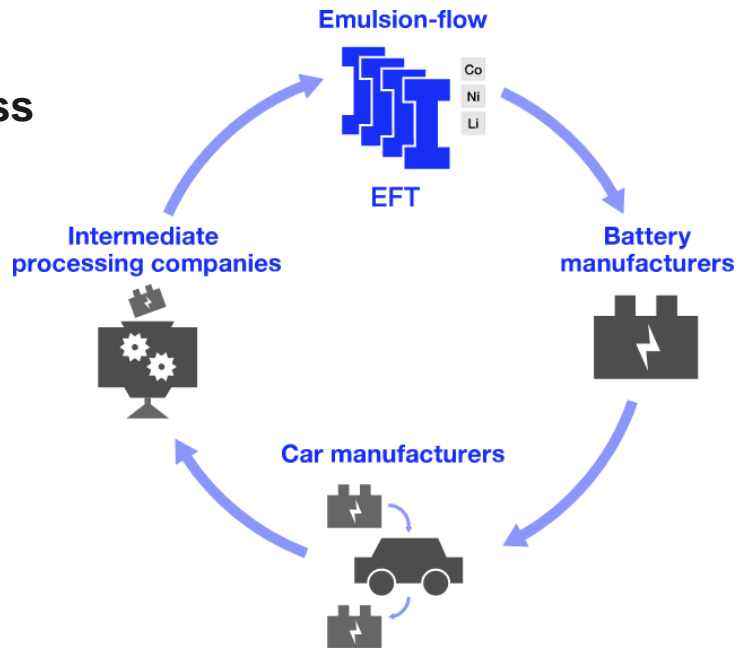


Business

Raremetal Recycling Business

Many rare-metal recycling techniques are in a validation phase and have not yet been commercialized. In particular, the recovery of rare metals requires complex and costly separating and refining processes, which are not profitable.

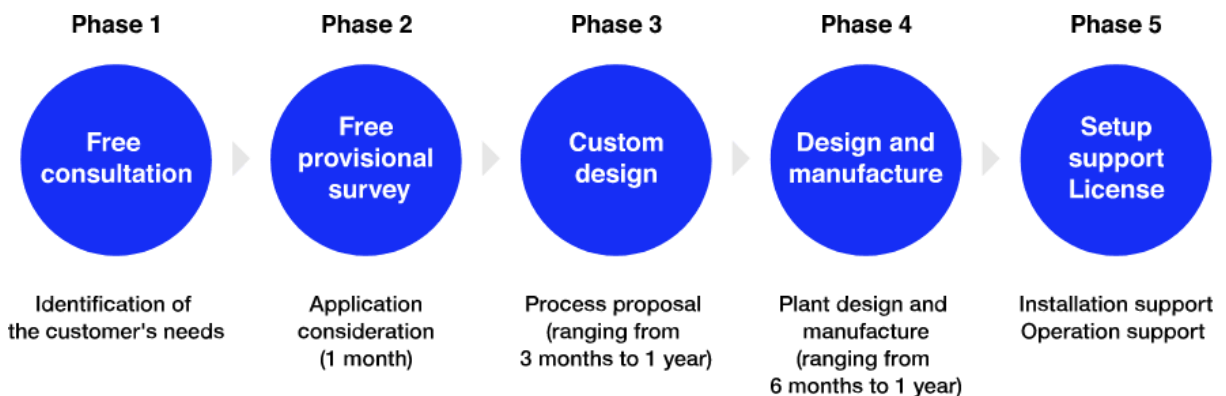
Emulsion Flow Technologies Ltd. aims to recover rare metals in lithium-ion batteries and others, with high purity. EFT implements this at a low cost to actualize “horizontal recycling,” where recovered rare metals are directly reutilized as high-grade materials in high-tech industries.



Total support business

We provide accompanying support for the introduction of Emulsion-flow, from the proposal of a solvent extraction process using our technologies to the implementation of a commercial plant.

In addition to rare-metal recycling, using our technologies, we give proposals addressing customers’ problems relating to separating and refining processes, such as metal smelting, etc. We assist with the design, installation, and manufacture of plants and equipment using Emulsion-flow. In addition, we procure technology licenses to realize customers’ requests.



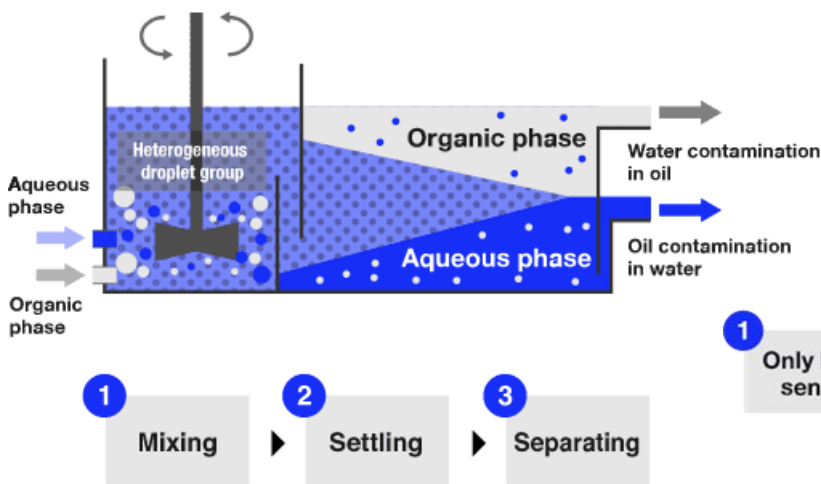
Technology

Emulsion-flow: innovative solvent extraction technology developed at JAEA

Solvent extraction is a method of separating and refining substances. It can be used to selectively extract a target component by utilizing the distribution of substances between two liquid phases that do not mix. Emulsion-flow was developed at the JAEA. Conventional solvent extraction methods require three processes of mixing, settling, and separating the two liquid phases. In contrast, only one process of liquid sending is required in Emulsion-flow, enabling an ideal solvent extraction.

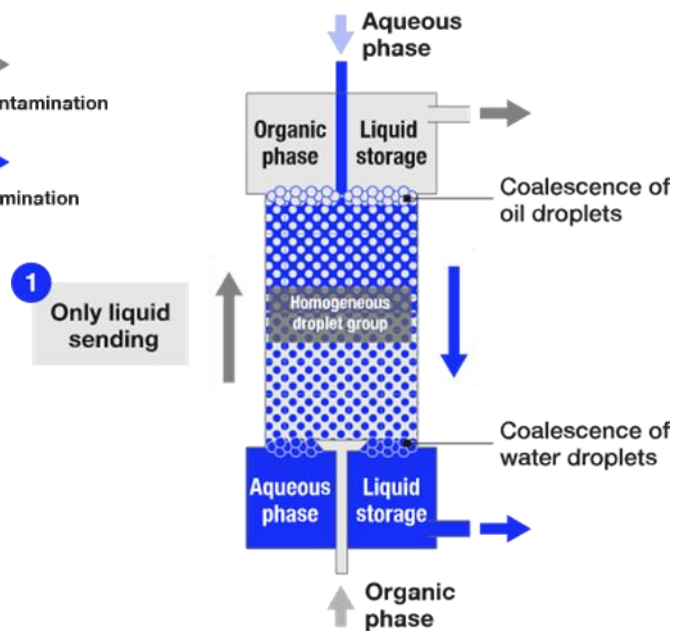
Conventional technique

Mixer-settler



New technique

Emulsion-flow



The competitive advantages of Emulsion-flow

Improved productivity

Tenfold the productivity of conventional techniques

Less than one-fifth of the running costs of conventional techniques

Improved working environment

Odorless, safe, and comfortable

Capable of 24-hour unattended operation through IoT management

Improved separation and Refinement

High-purity refinement of elements (over 99.99%)

Refinement of elements that are difficult to separate (rare earth elements, etc.)

Reduction of environmental load

High oil/water separation ability
Clean drainage

People



Hiroshi Suzuki President/CEO

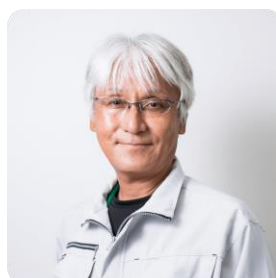
Hiroshi Suzuki joined the JAEA in 2003 and dedicated his efforts to neutron science and engineering research for approximately 15 years. He attended the new energy and industrial technology development organization (NEDO) startup supporters academy (SSA) in 2018. Afterward, he established the Innovation Management Office at JAEA and began to support the social implementation of research and development results generated in the field of nuclear energy. Through these activities, he met Hirochika Naganawa, and they both set up the startup, EFT Ltd. He oversees business development at EFT Ltd.



Hirochika Naganawa
CTO



Tetsushi Nagano
Founder



Suzuki Hideya
Founder



Komasa Mizuki
Nonexecutive Director

Company Profile

Company name	Emulsion Flow Technologies Ltd.
Established	April 5, 2021
Capital	535 million yen including capital reserve
Address	2-5 Oaza-Shirakata, Tokai, Naka, Ibaraki
Representative	Hiroshi Suzuki
Business description	Rare-metal recycling business using emulsion flow technology. Total support business relating to emulsion flow technology. New development business using Emulsion-flow technology.