

# SecREEs Citizen Lab

---



SecREEs

Secure European Critical Rare Earth Elements



This project has received funding from the European Union's  
horizon 2020 Research and Innovation Programme under  
Grant Agreement No 776559



PUBLIC

Ellesmere Port, Cheshire & online, 3 February  
2021

---

Led by Prospex Institute  
With Less Common Metals Ltd



---

# About SecREEs

SecREEs is a project receiving funding from the European Commission Horizon 2020 programme for research & innovation. It aims to establish a secure and stable supply of Rare Earth Elements (REEs) in Europe, using sustainable extraction methods from European apatite sources used in the production of NPK fertilisers. SecREEs partners are developing pilot processes for a sustainable extraction, separation and manufacturing of REEs to create permanent magnets for application to areas such as electric vehicles, industrial motors, wind turbines, with replication potential in consumer products or medical equipment. The main objective of SecREEs is to set up a new integrated European value chain for extraction, refining and production of REEs.

SecREEs partners are:

SINTEF AS – Norway – Coordinator

Yara International ASA – Norway – Industrial pilot

REEtec AS – Norway – Industrial Pilot

Less Common Metals Ltd – UK – Industrial Pilot

Vacuumschmelze GMBH & Co kg – Germany

Quantis – Switzerland

Institut National de l'Environnement et des Risques INERIS – France

Prospex Institute asbl – Belgium

Please find all relevant information and latest updates on the project website:

[www.secreets.eu](http://www.secreets.eu)

# Citizen Engagement in SecREEs

As part of the SecREEs Public Engagement strategy, Prospex Institute organises regular Citizen Labs, to engage local communities in areas where industrial partners are established. Through identifying civil society organisations, media groups, political parties and public authorities, Prospex Institute facilitates discussions between local communities and industrial partners to highlight challenges and opportunities related to SecREEs throughout the whole duration of the project. The outputs of these meetings allow SecREEs to co-create a level of social awareness around the project and incorporate local stakeholders' feedback into future developments.

The second Citizen Lab in Ellesmere Port (Cheshire, United Kingdom) took place on 3 February 2021, following the first UK Citizen Lab in January 2019. Due to COVID-19 restrictions, the original in-person meeting supposed to take place in April 2020 was cancelled. Subsequently, this year's meeting was held virtually on Zoom.

Together with LCM, Vacuumschmelze, Quantis and INERIS, Prospex Institute introduced the latest updates on SecREEs to a group of local stakeholders from Cheshire and Ellesmere Port. The project team used presentations, a quiz, a virtual visit of the LCM site, group discussions and other interactive activities to help participants understand challenges related to REE supply in Europe and to address questions and comments raised in the first Citizen Lab meeting.

For this event, Prospex Institute worked with LCM to complete the mapping of relevant local stakeholders carried out for the first Citizen Lab. Overall, 64 stakeholders were mapped and invited based on categories and quotas defined together with LCM, for a balanced group of stakeholders as illustrated in the table below.

	Reference/ Quota	Actual	Difference
<b>Civil Society Organisations</b>			
Community-based associations	1	8	7
Academia and Education	1	15	14
Political Parties	1	7	6
<b>Local influencers</b>			
Local Media	1	3	2
Local elected officials	2	3	1
Local councils and public services	2	7	5



<b>Business-related organisations</b>			
Business organisations	2	17	15
Trade unions	0	1	1
<b>GENDER</b>			
Male	5	28	23
Female	5	13	8
Not specified / Other	0	1	1
<b>AGE</b>			
16-30	1	2	1
30-60	5	28	23
60 and older	5	8	3

Prospex Institute received registrations from 23 stakeholders. As illustrated in the table below, all quotas were met in the registration process, apart from the registration of one additional local elected official. Due to the nature of the local demography, a wide range of business stakeholders and community-based associations registered.

	Reference/ Quota	Actual	Difference
<b>Civil Society Organisations</b>			
Community-based associations	1	8	7
Academia and Education	1	5	4
Political Parties	1	2	1
<b>Local influencers</b>			
Local Media	1	1	0
Local elected officials	2	1	-1
Local councils and public services	2	2	0
<b>Business-related organisations</b>			
Business organisations	2	9	7
Trade unions	0	0	0
<b>GENDER</b>			
Male	5	15	10
Female	5	9	4
Not specified / Other	0	0	0
<b>AGE</b>			
16-30	1	1	0
30-60	5	11	6
60 and older	5	11	6

---

In accordance with the EU General Data Protection Regulation, participants were requested to fill in a registration form online ahead of the event, with personal information and consent for the sharing of their personal data among SecREEs partners and permission for us to take screenshots and use them as part of SecREEs communication activities. A recording of the meeting was performed for internal note-taking purposes only. To ensure transparency, participants were explained at the start of the Citizen Lab that the meeting is public and information presented by the SecREEs team during the event can be shared externally.

---

# Presentations

## 1 – Introducing Rare Earth Elements and SecREEs

Ian Higgins, Managing Director from Less Common Metals (LCM), opened the session by thanking all participants for their time, stating that this Citizen Lab would focus on giving insights into the supply chain for permanent magnets, and what LCM is doing to improve that chain. Marc Gramberger from Prospex Institute (PI), and lead moderator of the session, provided an overview of the house rules for this interactive session, as well as the agenda. In particular the sessions on what happens to LCM alloy and on safety & environmental standards were included in the agenda, following comments from the participants to the first Citizen Lab.

Clara Boissenin from PI and co-moderator introduced the SecREEs quiz, as an interactive way to get participants to understand REEs and what SecREEs is focusing on. Through live polling, participants were asked to respond to the following questions (with potential answers displayed respectively):

- *What are Rare Earth Elements?*
- *In which of the following objects can you find Rare Earth Elements?*
- *Which country in the world has the most control over the Rare Earth market?*
- *Rare Earths are found in permanent magnets. What is LCM's role in producing permanent magnets?*
- *What does the SecREEs project aim to achieve?*

Ian Higgins, with the participants' responses displayed after each question, consecutively commented on each result with additional insights.

---

## 2 – LCM factory – Virtual tour and Q&A – *with Kagya Nyanin, Technical Manager at LCM*

Kagya Nyanin, Technical Manager at LCM, introduced the virtual tour of the LCM plant. Through a video, participants were shown the inside of and the entire production process in the plant, including the manufacturing, its innovations, as well as health, safety & environmental standards.

See selected images of the virtual tour video below:

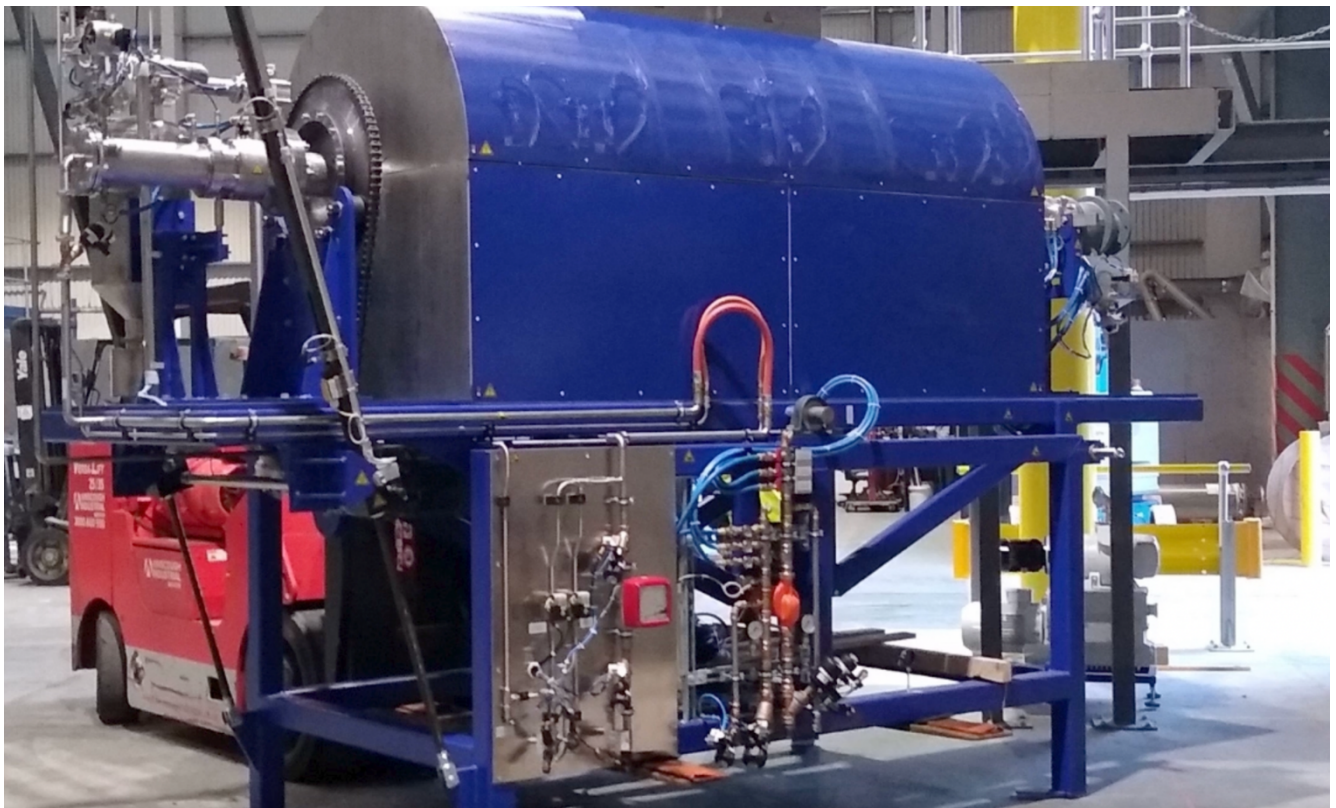


*Inside of one of the 600kg strip casters. Molten alloy is cast over a water-cooled rotating wheel to give flake product.*





*LCM has installed this 'wet-scrubber' to reduce any harmful emissions before they get exposed to the air.*



*This hydride plant is LCM's newest piece of equipment under the project activities, commissioned last year.*



- Air-flow full face visor
- Ear protectors
- Fire-proof jacket and trousers
- Heat-resistant gauntlets
- Fire resistant boots with rated gaiters

*An overview of personal protective equipment for LCM operators.*

## ENVIRONMENTAL AND WASTE REQUIREMENTS



*An overview of environmental and waste policies and requirements at LCM.*



### 3 – What happens to LCM alloys? – *with Christoph Brombacher from Vacuumschmelze*

Christoph Brombacher from Vacuumschmelze (VAC) gave a presentation on their role in the SecREETs project, including on their value chains, and in particular their permanent magnet production.

## Advanced Materials – The Key to Progress

### Who are we?

- Leading manufacturer of high-end magnetic alloys, components and applied products
- Developer of customized solutions based on 800+ patents
- Application Specialist for
  - Aerospace
  - Automotive Systems
  - Renewable Energy Applications
  - Industrial Automation
  - Scientificand many more



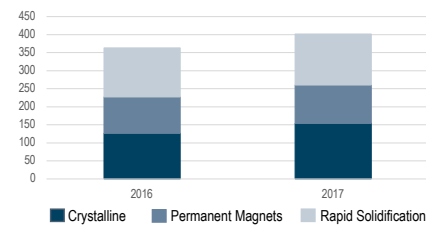


# Key Facts & Figures

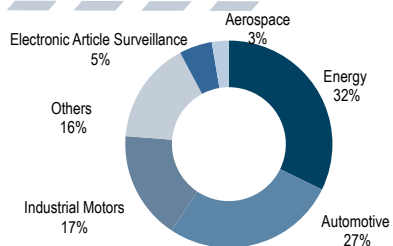
- Company established in 1923 with a global footprint
- Manufacturing in Europe and Asia; sales in ~40 countries
- Approximately 4,400 employees
- 800+ patents

## Sales

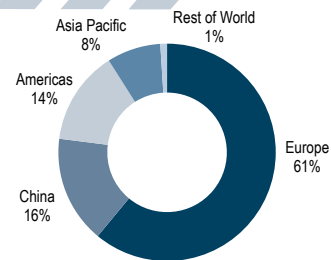
(€ in millions)



## Revenue by application (2017)



## Revenue by geography (2017)



ADVANCED MATERIALS – THE KEY TO PROGRESS

3













# VAC Global Footprint



ADVANCED MATERIALS – THE KEY TO PROGRESS

4

# VAC Value Chain Innovation

	Crystalline	Rapid Solidification	Permanent Magnets
Innovative Products	Cobalt-iron laminated packages  Current sensors 	<b>benvac</b> sensors  Common Mode Chokes based on VP550 HF and 712 	Advanced magnet assemblies  Magnets for position sensors 
Applications	Hyper Car / F1 / FE Aviation eMotors  PV-Inverters and industrial drives 	ICCPD – applications  PV-Inverter and industrial drives 	Large Energy Gen. Automotive  Double-clutch gear box 
End Markets	<ul style="list-style-type: none"> <li>Automotive</li> <li>Aerospace</li> <li>Renewable energy</li> <li>Industrial</li> </ul>	<ul style="list-style-type: none"> <li>Consumer electronics</li> <li>e-mobility</li> <li>Renewable energies</li> <li>Industrial drives</li> </ul>	<ul style="list-style-type: none"> <li>Automation &amp; Drives</li> <li>Automotive</li> <li>Aerospace</li> <li>Automotive</li> </ul>

VAC solutions developed from VAC material technology

ADVANCED MATERIALS – THE KEY TO PROGRESS

5

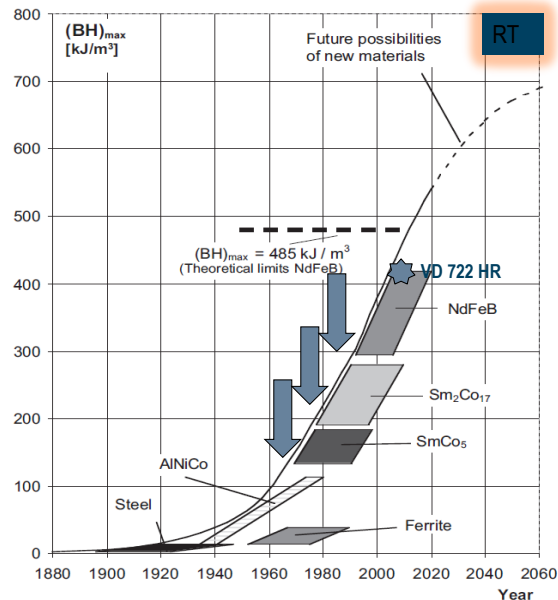
## History of RE magnets

- 1966  $\text{SmCo}_5$  \*
- 1970s:  $\text{Sm}_2\text{Co}_{17}$  \*
- 1984:  $\text{Nd}_2\text{Fe}_{14}\text{B}$  \*\*

- ➔ Rapid industrialization
- ➔ RE – magnets with  $(\text{BH})_{\text{max}} = 415 \text{ kJ/m}^3$
- ➔  $(\text{BH})_{\text{max}}$  four times larger than AlNiCo

\* K.J. Strnat, *Ferromagnetic Materials* 4, 131 (1988)

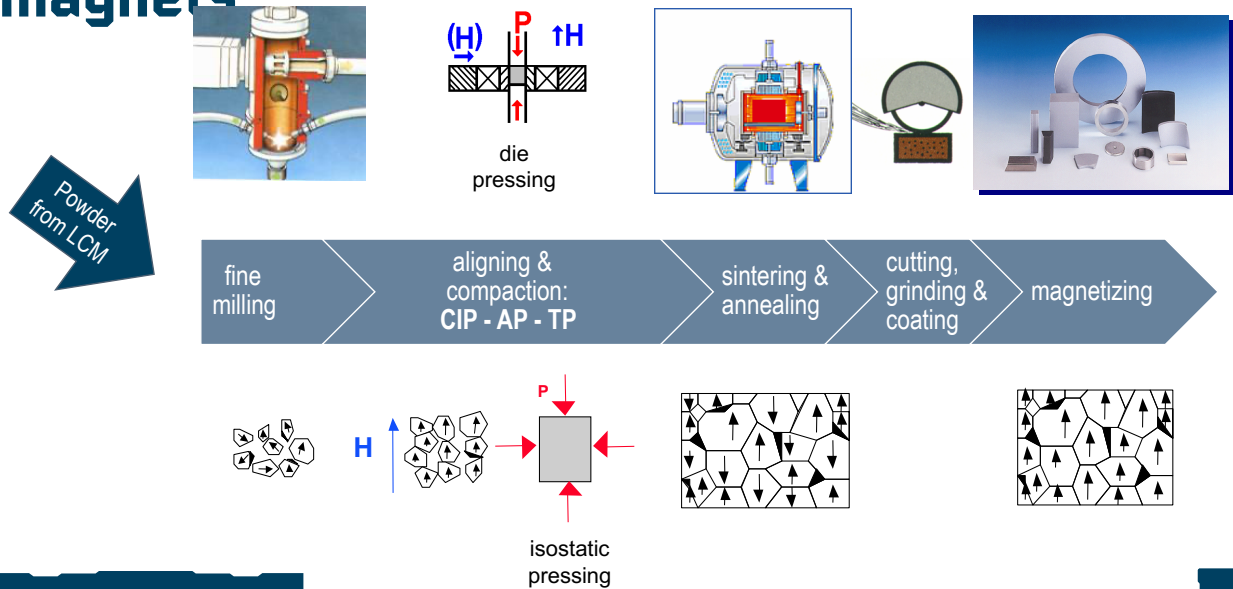
\*\* M. Sagawa et al., *JAP* 55, 2083 (1984)



ADVANCED MATERIALS – THE KEY TO PROGRESS

7

# Powder metallurgical production of RE magnets

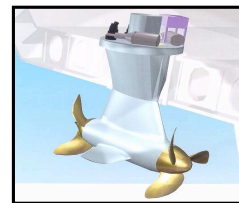
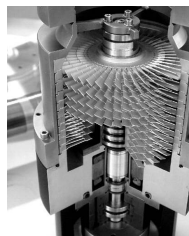


ADVANCED MATERIALS - THE KEY TO PROGRESS

8

## Key applications

1. Industrial motors / generators
2. Big motors (wind energy / ship propulsion)
3. Automotive
4. Scientific
5. Bearings



ADVANCED MATERIALS - THE KEY TO PROGRESS

9

---

## 4 – Safety & Environmental Standards in SecREEs – *with Pauline Chrobot, Quantis (Switzerland), Guy Marlair & Thangavelu Jayabalan, INERIS (France)*

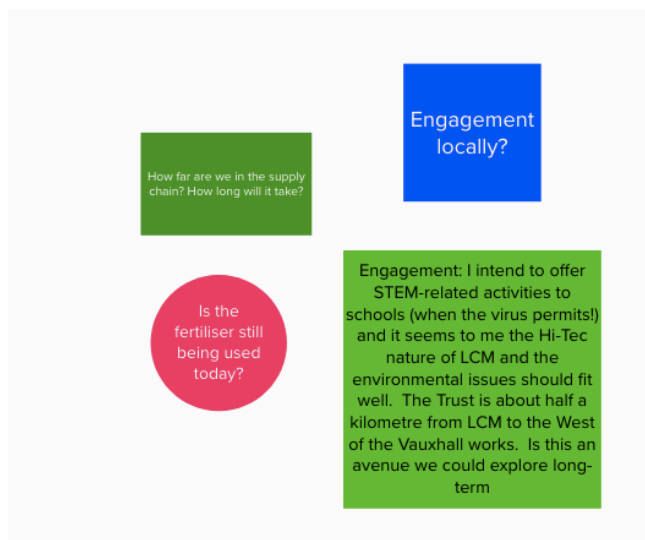
This particular session was included in this second Citizen Lab as participants to the first Lab had indicated they wanted more information regarding this topic.

Pauline Chrobot from Quantis described how they are working on mapping and quantifying the entire environmental impact of the SecREEs value chain through a ‘lifecycle assessment’: following ISO norms, this process takes into account the extraction and production of metals and alloys, as well as the production of the permanent magnets (the use and the end-of-life phases are not being taken into account for the purposes of this project). Looking at these different steps and the inputs they require (e.g. chemicals, water, energy (electricity, fuel, gas, heat), packaging, transport), SecREEs will be able to assess the environmental footprints of its products along different indicators (e.g. climate change).

Guy Marlair and Thangavelu Jayabalan from INERIS (‘Institut National de l’Environnement et des Risques’) presented their work on industrial safety within SecREEs. This consists in dealing with workers safety, but also potential implications for local neighbourhoods around the pilot sites. Their work includes integrating existing safety regulations and hazards, but also considers emerging risks, which might not necessarily be covered by the latter. Through a continuous monitoring process, they ensure SecREEs and its outputs are safer & more sustainable.

## 5 – Engaging with the Ellesmere Port & Cheshire community – *with Georgia Macey, Marketing Officer at LCM*

Marc Gramberger opened the floor for any question or comment which participants would like the project to address. These were recorded by Georgia Macey from LCM using Mural, an online whiteboard tool:



Then, Georgia Macey from LCM gave an overview of local engagement activities conducted in 2019 & 2020, including presentations to the University of Chester and the Knutsford Science Bar, as well as media engagements and newsletters:



### Engagements 2019/20:

- Presentation to the University of Chester, Thornton Science Park
  - I. One hour research seminar
  - II. Attendees of academics and students
  - III. Toured their premises, still need to organise a visit to LCM
  - IV. Placement student
  - V. Can we support UoC with characterization/tests etc
- Presentation to the Knutsford Science Bar
  - I. 45-minute talk with 30-minute Q&A
  - II. A group of people who are interested in science (retired researchers and teachers)
- Press Release Argus Media
  - I. Global readership
  - II. Two press releases (February and June)
- Social media posts
- LCM newsletter to keep stakeholders involved and updated
- Planning to hold workshops for local schools (put on hold because of Covid-19)



---

In the last session of the meeting, the audience was distributed among smaller groups (2-4 participants) to discuss how SecREEs could best inform and engage the local communities in Ellesmere Port and Cheshire in the future. Each breakout group was tasked with filling in a digital form with three questions – the questions and answers received displayed here:

**1. What activities would you like to see from SecREEs in Ellesmere Port / Cheshire over the next years?**

*Answers from the forms:*

- *Need for workshops and meetings e.g. suggested by Catalyst. Need to involve schools. Need for a variety of means of communication depending on the audience.*
- *Correspondence /Links /Media Marketing*
- *E-mail newsletter + local press*
- *Emails and webinars*

**2. How can we best update you on developments of SecREEs?**

*Answers from the forms:*

- *Engage with Sixth Form colleges & students who would prefer to go into apprentice schemes locally. Depends on what you are trying to sell and to whom? What will the outcomes be for the people we want to contact? Ian thinks we need to sell benefits to local economy & the need to recruit high quality talent.*
- *Closer Engagement with Students in Pre Degree Level/ Presentations / Plus engage with Further Education Colleges and Schools*
- *Practical demonstrations to children. Demonstrating magnets / electromagnets*
- *Live tour of LCM*

**3. Who else should we engage in Ellesmere Port / Cheshire?**

*Answers from the forms:*

- *Attempted to engage with local MP but haven't received a response yet - it would be important to get him involved. Cheshire & Warrington LEP?*
- *West Cheshire and North Wales Chamber of Commerce?*
- *Schools / scouts / youth clubs (science badges) 'A' level teenagers*
- *N/A*

---

## 7 – Wrap-up

Arne Petter Ratvik from SINTEF, and project coordinator of the SecREEs project, wrapped up the Citizen Lab by thanking all participants for attending and their feedback – a crucial component in ensuring SecREEs can maximise its impact as a project. Ian Higgins of LCM complemented this by saying that this feedback through the Citizen Labs is incredibly important to ensure SecREEs does everything right, including at its pilot sites. He added that LCM is very much committed to be engaged locally at Ellesmere Port and Cheshire: with ambitious expansion plans, LCM as a local employer will also need to attract top talent from the local communities.



---

# Questions & Answers

## 1 – Introducing Rare Earth Elements

**Q: I have 30 lanthanides in my Periodic Table book. Which ones does LCM focus on?**

**A:** LCM is specialised in complex alloys that involve these REEs. There are two main systems for making permanent magnets: firstly, in the Neodymium-Iron-Boron (NdFeB) system, you can have Neodymium, and often Praseodymium as REEs – sometimes there is either Dysprosium or Terbium also added to it, depending on the customer specification. LCM as such only creates products following specific customer requests. Secondly, the Samarium-Cobalt system can also contain Samarium, Praseodymium, and Gadolinium as REEs. Finally, LCM also produces other alloys that are not used for making permanent magnets – that can contain additional REEs. For us in a nutshell, it really depends on what our customers' specifications are. Depending on what our customers ask us to produce, we can add several individual REEs.

## 2 – LCM factory – Virtual tour and Q&A

**Q: Is it likely that there are REEs existing in other parts of the world, but we have not been able to mine yet? Is there a possibility to produce REEs from scrap metals / scrap yards?**

**A:** There certainly are interesting ores around the world - those a lot of times need a financial push for anyone to be able to exploit those resources. In Australia, we are seeing some activities, and there are interesting developments in Africa, North America and South America too. With regards to recovering REEs from scrap metals / scrap yards, LCM is part of a large EU-funded project looked at this option. There are a lot of innovations happening in this field. Hopefully in the future LCM can use those 'recovered REEs' in its own processes.

**Q: If you only make 'to order' – what is the lead time to produce and deliver to the customer?**

**A:** We always maintain reserves of raw materials. The total lead-in time to make a product can be 2 to 3 weeks. Therefore, it is a relatively quick process. We make sure we have decent stock of key raw materials at all times to enable this.

---

**Q: How do you control the quality of the product?**

**A:** Here at the LCM site we have a dedicated on-site laboratory with significant experience in analysing REEs. First, we start with analysing the raw materials – looking at their qualification and their potential contaminations. As we develop the product, we continuously take samples to make sure they are up to the client's specifications. We have process technologies set up ensuring our processes are well-controlled. In the end, before it goes to the customer, we make sure their specifications all check out. In short, it's a rigorous process where monitor and assure for quality throughout the production cycle.

**Q: What is LCM's production capacity for NdFeB alloy?**

**A:** This is an estimation of the site production team, but , if the client requests correspond to it, we have an annual production capacity of 1400 tonnes of NdFeB. Similarly, for Samarium–Cobalt, running the same estimate, we believe we have installed capacity of 1,100 tonnes per annum.

**Q: That footage from China that we saw – is this recent footage? We could see among other things that the protective equipment for workers was quite minimal.**

**A:** The footage is from 2018 – we need to emphasise that standards vary dramatically in China, and that they are improving in certain areas, and that there are better standards of production than what we saw in the footage. We would be fairly confident in saying that still today, some of the materials that are finding its way into magnets, into consumer goods, is being made in the way that you saw in that video.

**Q: Can you tell me how the electrolysis process scales? Do you build bigger cells, or do you make more cells?**

**A:** Ian Higgins: You can do either. But more often than not, people simply put more cells in, because of the issue of stability: the kind of size of equipment that you saw in the footage from LCM, is easier to keep stable than the larger equipment. People have attempted to upscale in terms of using larger equipment, and a few places do operate those relatively successfully. But more often than not, the standard approach is simply to put more pieces of equipment in of the same size as you saw in the video.

---

**Q: How do you at LCM train your staff in using the equipment, and how to use it correctly? You're working with complex materials, how do you deal with this?**

**A:** Kagya Nyanin: Most of these systems have been developed in China over many years. We have added a lot more analysis and process control into it, making sure our environmental footprints are up to the standards we are all accustomed to. In our process we also have an opportunity to understand the fundamentals of the electrolysis, and how to control our process. We also use data analytics and IT to develop our own custom-made software, that allows us to capture this process, and analyse it, improving the control over the process. In addition, with our lab, with our meta-analysis there, this gives us an edge. We also monitor for our environmental footprint (e.g. air) – everything that comes out of the cell, to make sure that anything we emit is clean; this is also a differentiator – making sure our environmental footprint is as low as possible.

**A:** Ian Higgins: The processes were initially developed in China, so, with the exception of LCM, most of the global knowhow is currently within China. So our methodology was to bring over a team from China and have them work here at Ellesmere Port for four months, in our sites, complying to our HSE standards. This team was extremely professional – they adapted to the UK requirements for protective equipment, and adhered to it rigorously, and over this four-month-period, they shared a significant amount of their knowhow. We are looking to take the Chinese process and improve it, introducing a greater level of measurements, of automation based on those measurements, etc. The process itself overall is akin to brewing – the head brewer is king. There is always an aspect of operator knowhow – you need an experienced operator that knows what's going on, and knowing what variables they have to address if things go away from the standard control, and to ensure the equipment runs efficiently; and we learned a lot from the Chinese in that sense. We are the only place west of the Urals that can do this, including North-America, that can operate this process. Outside of China, there's two, maybe three companies in South-East Asia that could do something similar, but they are all either Chinese-owned or use Chinese staff to use the equipment.

**Q: What will happen to the alloy after they are produced by LCM?**

**A:** In the SecREETs project, the alloys are sent to our partner Vacuumschmelze in Germany, who produces the magnets as per the presentation given by Christoph Brombacher.

---

### 3 – Advanced Materials – the Key to Progress

**Q: Do you deliver directly to your customers?**

**A:** A lot of times, we are in fact directly delivering to automotive industry / original equipment manufacturers (OEMs); depending on the product, sometimes there are intermediary players.

**Q: What will be the biggest advantage for your company from the SecREEs project?**

**A:** It's the fully European value chain – that's what we and our customers want. That's the key benefit of the SecREEs project. We have a lot European partners and customers – we observed that we all want to ensure a stable & secure supply of permanent magnets – so we are not dependent from China, where restrictions of exports are seen as a real risk.

**Q: Are customers willing to pay more to have a European supply chain? Did you receive any indications in the past?**

**A:** Some customers are willing to pay more, some don't. Of course, a key challenge of our project is also to produce at a similar cost as our Chinese competitors. We've asked our customers in the past whether they're willing to pay more – most customers would answer no.

**Q: About lead times. Considering 2-3 weeks to deliver the final product as mentioned earlier – is that a competitive advantage vs China, where you would have to pay up-front, and where delivery times are uncertain?**

**A:** That's a clear advantage indeed – especially in the last year, we have experienced quite some delays in our deliveries from China. We are constantly being challenged by our customers to make the lead times as short as possible.

**Q: Is a sustainable EU supply chain of benefit to the American market or are they looking at establishing their own?**

**A:** The dependence on China is also a big concern for the US. If we succeed with the EU supply chain, the need to establish an independent American supply chain will be reduced significantly.

---

## 4 – Safety & Environmental Standards in SecREEs

*No questions asked.*

## 5 – Engagement with the Cheshire and Ellesmere Port community

**Q: In the first Citizen Lab and the original presentation, fertilizers were mentioned – is this still included in the projects?**

**A:** The Rare Earths used in the SecREEs project are extracted as a side stream from NPK fertilizer production. This type of fertilizer is produced using apatite rock, which is known to contain Rare Earths elements. In SecREEs, the Norwegian fertilizer producer Yara is working on a process to extract a Rare Earth concentrate from its production. This concentrate is then processed by the Norwegian company REEtec, which separates the Rare Earths into oxides usable by LCM for their alloy production.

**Q: How much progress has been achieved in SecREEs? How much longer do you need?**

**A:** The SecREEs project is about half way through. All the major pilots have been established and tested. Further optimisations of the pilots and processes are currently the main focus. All pilot tests, i.e. pilot and process improvements for the integrated value chain products, are expected to be finished late summer/early fall 2023. Expected closing of the project is late fall 2023.

**Q: ‘Engagement locally’**

**A:** Local engagement is one of the cornerstone of SecREEs, not only with the Citizen Lab meetings but also through continued interaction with local community members. LCM and Prospex Institute have used the feedback received in the first Citizen Lab meeting to explore multiple avenues of engagement locally, and we are always on the lookout for more opportunities to get the local community involved.

**Q: I intend to offer STEM-related activities to schools (when the virus permits!) and it seems to me the Hi-Tec nature of LCM and the environmental issues should fit well. The Trust is about half a kilometre from LCM to the West of the Vauxhall works. Is this an avenue we could explore long-term?**

**A:** The SecREEs partners, including LCM, are always happy to explore possibilities to engage with the local community. We particularly welcome opportunities to discuss

---

synergies around STEM school activities, as this is one of the strongest requests we've received from Citizen Lab participants. In addition, one of the objectives of SecREEs is to foster longer term engagement between our partners and their local communities beyond the timeframe of the project, which means the door remains open for future joint activities.

---

# Evaluations

Participants were sent a link to an online evaluation form at the end of the meeting as well as after. These forms are designed to help the SecREEs team get feedback on their public engagement strategy and the Citizen Labs more specifically, in order to improve future engagement activities.

See below for a full overview of the questions and the participants' aggregated responses. We received six completed evaluation forms in total.

## 1. How do you rate the Citizen Lab in general?

Please mark:	5 – Very good	4 – Good	3 – OK	2 – Bad	1 – Very bad
Number of answers	1	3	2	0	0

### Comments:

- Interesting and different activities were valuable.
- Very interesting - even for a non scientist!
- Some of the audio was not very good
- A very helpful and informative session

## 2. How much did this lab help you understand challenges related to Rare Earth Elements?

Please mark:	5 – Very much	4 – Much	3 – Somewhat	2 – Little	1 – Very little
Number of answers	1	3	2	0	0

### Comments:

- That was good



**3. How much did this lab help you understand about what the SecREEs project has done in Ellesmere Port so far, and what it will do next?**

Please mark:	5 – Very good	4 – Good	3 – OK	2 – Bad	1 – Very bad
Number of answers	1	4	1	0	0

**Comments:**

- Had to leave early.
- There are clearly big opportunities opened up by this collaboration which will really benefit the local community as well as the whole of the UK

**4. How much were you enabled to contribute to the discussion?**

Please mark:	5 – Very much	4 – Much	3 – Somewhat	2 – Little	1 – Very little
Number of answers	2	1	1	1	1

**Comments:**

- Very inclusive
- Out of my depth really!
- Had to leave early

**5. If you joined us on Spatial chat, how would you rate the networking session?**

Please mark:	5 – Very good	4 – Good	3 – OK	2 – Bad	1 – Very bad
Number of answers	0	1	2	1	2

**Do you have any additional comments?**

- Nothing to add

- 
- Thank you for the invitation to learn more!
  - No
  - I was unable to attend the spatial chat
  - I could not join the spatial chat