31/07/2019

NICHE ASSET MANAGEMENT

Pharus Electric Mobility

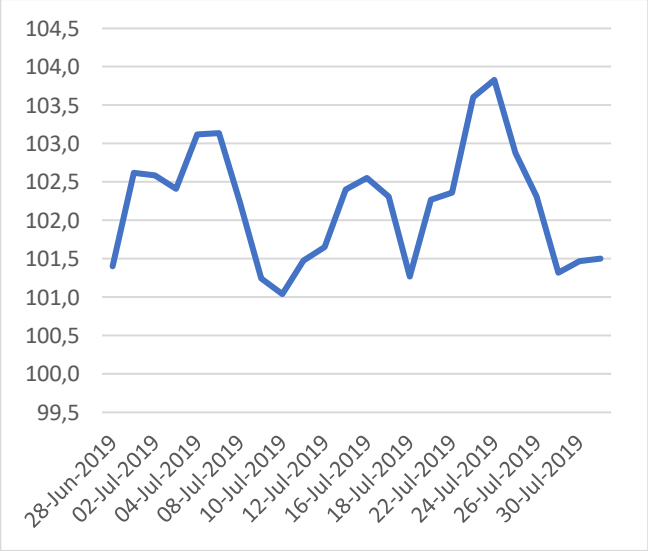
July Portfolio Update

Launch date: 11.06.2019
Total Net Asset al 31.07.19: € 5,001,954.13
Currency: EUR

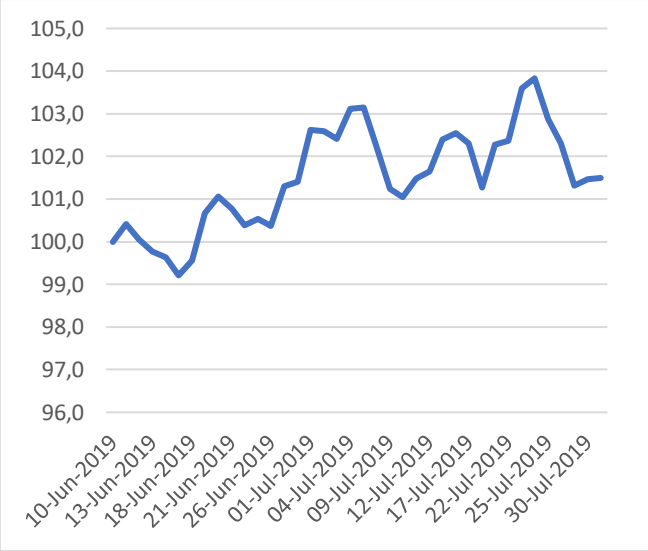
Net Asset Value per share As of 31.07.19:		
	Classe B – Isin: LU1867072222	€ 101,47
	Classe Q – Isin: LU1867072495	€ 101,46

Net Asset Value per share

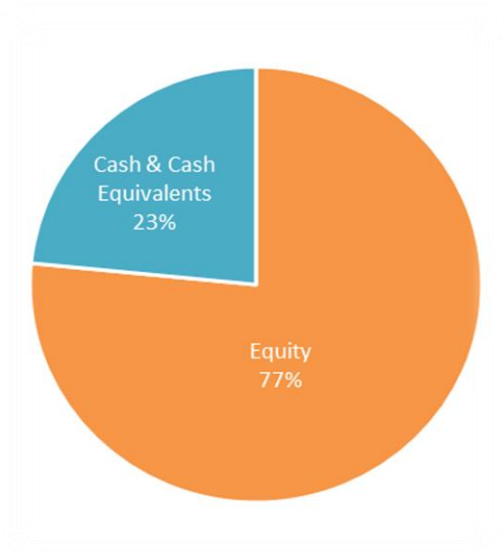
July Performance : 0.10%



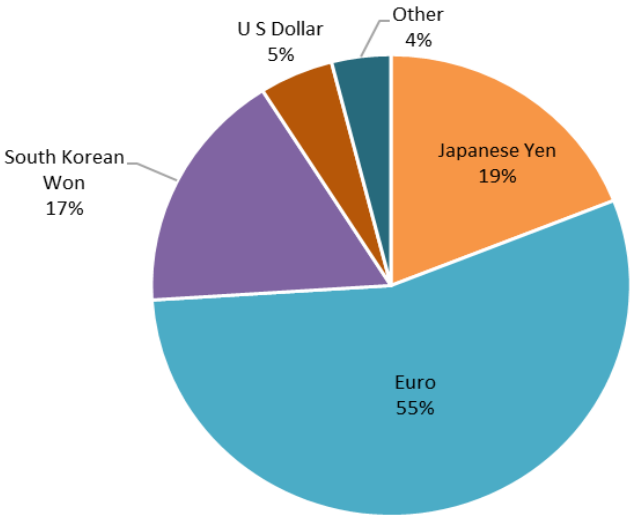
Performance since inception: 1.49%



Portfolio breakdown by asset class



*Portfolio breakdown by currency **



** net of 62% JPY hedging*

Monthly Comment

The fund Electric Mobility Niches was launched on the 10th June and this is its first reporting month. In July, it recorded a performance of 0.1% and of 1.5% since inception. The fund reporting is divided in ten Niches, encompassing the Electric Mobility space. This helps to provide the investors with a better understanding of the investment. The Niches are 1) Lithium Cells 2) Cathodes 3) Anodes 4) Electrolytes 5) Separators 6) Commodities 7) Powertrains & Ultracapacitors 8) EV Makers 9) Satellite Areas of EM 10) ADAS.

The fund was gradually invested and ended the month of July holding about 77% in equities. The Niches related to the batteries account for most of the fund, as they are those to benefit of the 30 times expansion of the EV Lithium batteries sales in the next few years, to become a $400 bln market. The portfolio provides exposure to quality stocks with depressed valuations, despite the good opportunities ahead. On top of attractive valuations, the portfolio is also very sound, with a low level of gearing that provides our companies with the ability to withstand economic downturns and difficult markets for long periods.

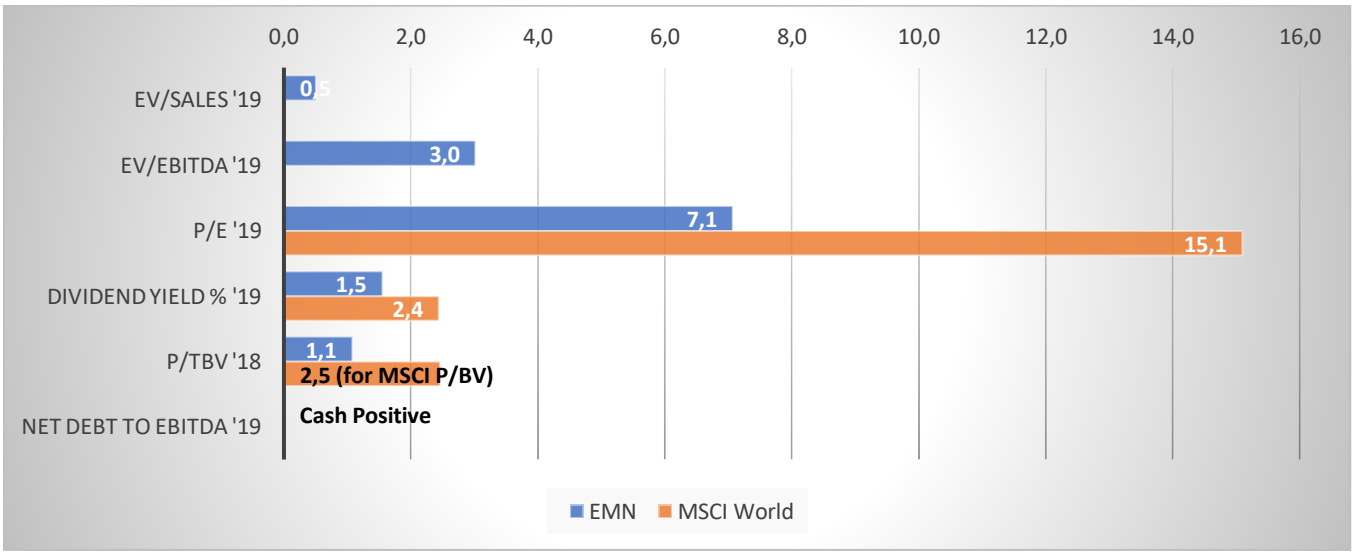
During the month of July, the Niche Commodities (nickel, graphite, cobalt and lithium) was deeply down (-9%), depressed by the fears of an extended trade war. The Niche Cathodes was also negative (-3.6%), affected by the floundering Korean market where many players are based. On the other hand, the Niche Separators was positive due to a few good earnings reports and the Niche Electrolytes was the outperformer (+23.2%) thanks to a shortage of components from Japan following a trading spat with Korea.

The today investment environment, characterised by anxiety and depressed valuations throughout the industrial sector, offers the ideal background to increase gradually the equity exposure into this promising area.

Equity Niches performance in July

NICHE	*JULY*
Lithium Cells	1.6%
Cathodes	-3.6%
Anode	-0.6%
Separators	4.1%
Electrolytes	23.3%
Commodities	-9.6%
Powertrains & Ultra capacitors	3.0%
Evs makers	2.0%
Satellite	1.6%
ADAS	6.1%

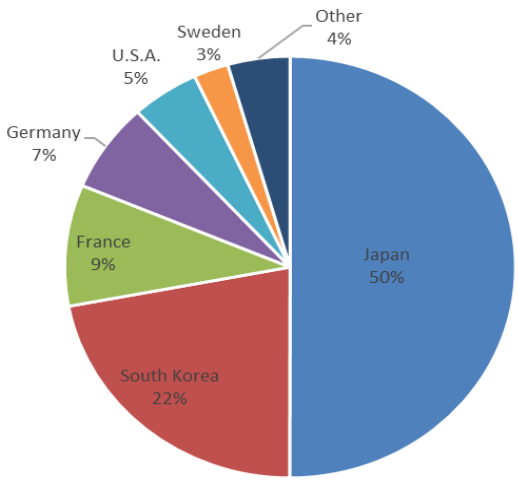
Portfolio valuation



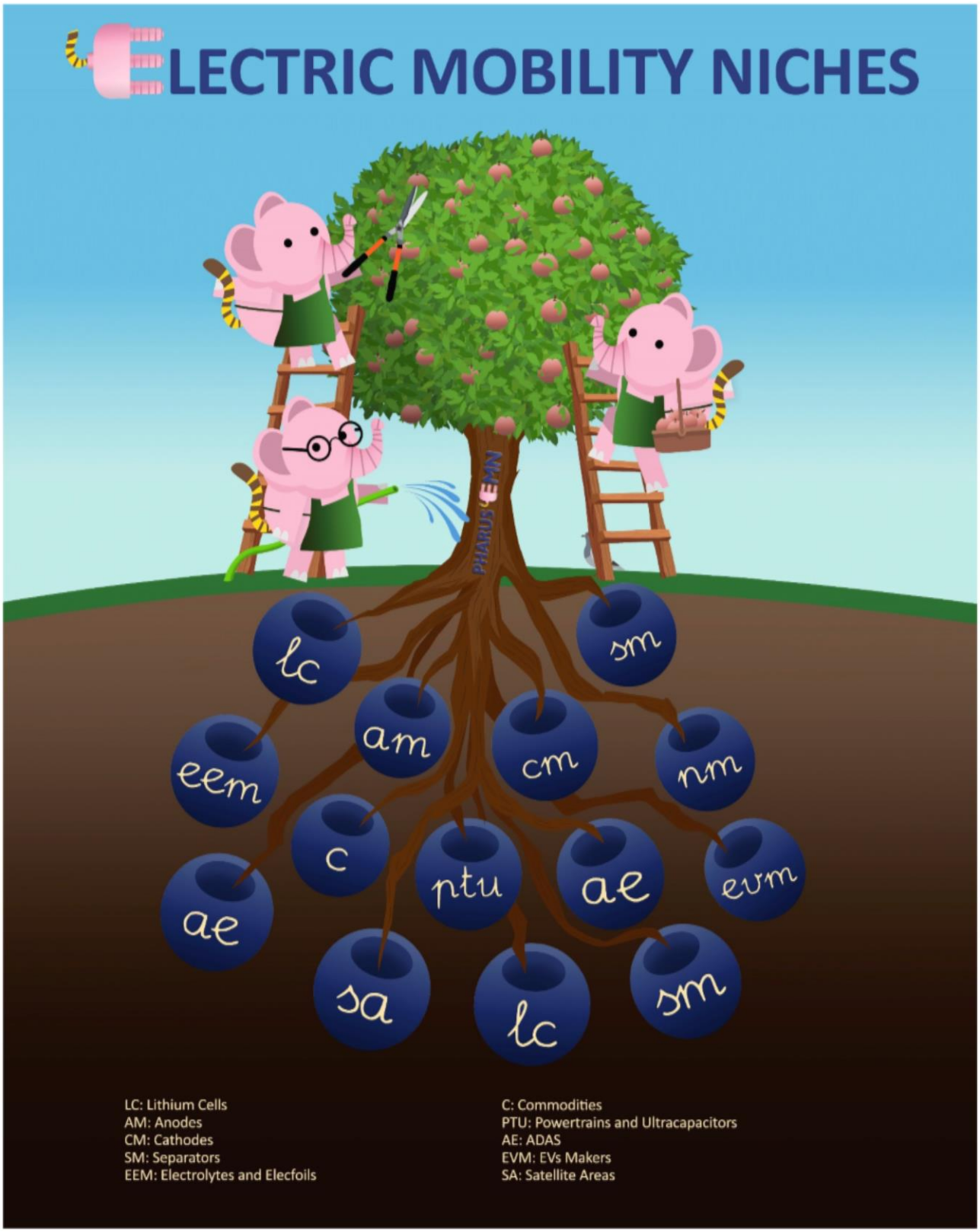
Equity top holdings for July

ISIN	SECURITY	%	NICHE	SUB-NICHE
JP3866800000	Panasonic Ord Shs	6.25%	Lithium Cells	NCA
JP3401400001	Sumitomo Chemical Ord Shs	3.11%	Separators	Separators
JP3402600005	Sumitomo Metal Mining Ord Shs	3.11%	Cathodes	NCA
JP3544000007	Teijin Ord Shs	2.80%	Separators	Separators
KR7006401004	Samsung SDI Pref Shs	2.80%	Lithium Cells	NMC
KR7051911006	LG Chem Preferred Stock	2.68%	Lithium Cells	NMC
FR0013176526	Valeo Ord Shs	2.48%	Powertrains & UC	PT
KR7086520004	Ecopro Ord Shs	2.43%	Cathodes	NCA
KR7096770003	SK Innovation Pref Shs	2.42%	Lithium Cells	NMC
JP3691600005	Nippon Chemi Con Ord Shs	2.23%	Powertrains & UC	UC

Equity breakdown by geographical exposure



Source: Niche AM


ELECTRIC MOBILITY NICHES
PHARUS EMN
lc
sm
am
cm
eem
nm
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ae
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ae
sa
lc
sm
LC: Lithium Cells
AM: Anodes
CM: Cathodes
SM: Separators
EEM: Electrolytes and Elecfoils
C: Commodities
PTU: Powertrains and Ultracapacitors
AE: ADAS
EVM: EVs Makers
SA: Satellite Areas

Lithium Cells

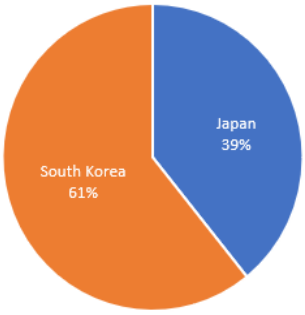
 # stocks: 5 *Average Market Cap (mln $)* 15,108 *Median Market Cap (mln $):* 12,644

Lithium cells – segment breakdown

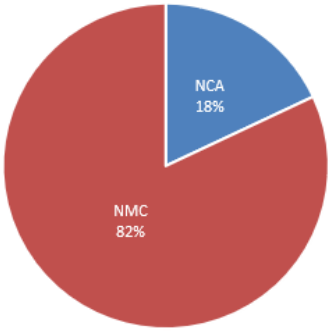
		EM Fund	Lithium Niche
Lithium Cells	**LC**	**21.3%**	**100.0%**
Nickel Cobalt Aluminium	NCA	17.2%	80.9%
Nickel Manganese Cobalt	NCM	4.1%	19.1%

Source: Niche AM

Geographical breakdown



Segment breakdown



Source: Niche AM

Chart July (30/06-31/07)

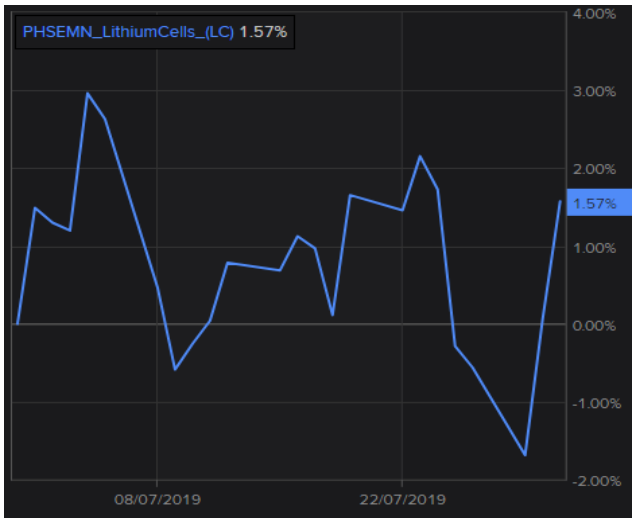
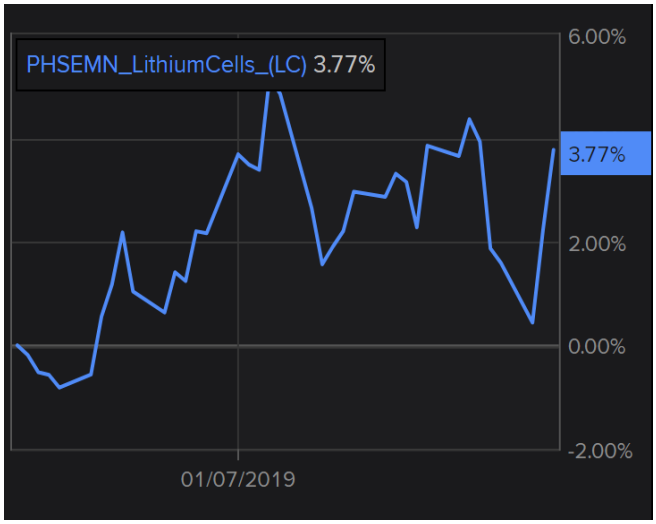


Chart since inception (11/06-31/07)

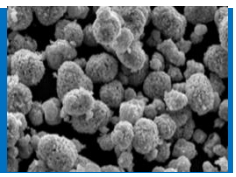


Source: Niche AM

Niche description

Electric mobility will grow dramatically in the next few years, with a speed still unexpected by most and changing the world for good. The electric mobility will be pervasive, affecting land, air and water transportation. At the base of the electrification of mobility we found the lithium batteries that are made up of several lithium cells bundled together. Each lithium cell is a small battery with a cathode, an anode, a separator and filled with electrolyte solution. There are different kinds of lithium cells, depending on the chemistry used, although the NCA and NCM will be those by far most used in the electrification of mobility.

Cathodes



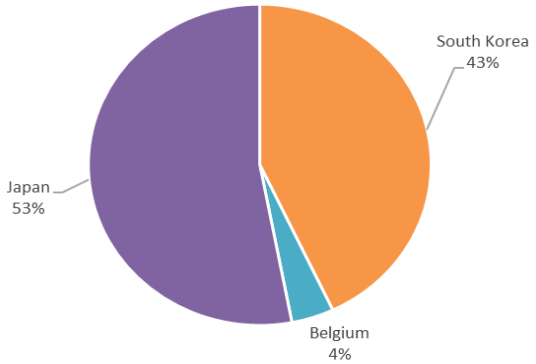
 # stocks: 9 *Average Market Cap (mln $):* 1,750 *Median Market Cap (mln $):* 175

Cathodes – segment breakdown

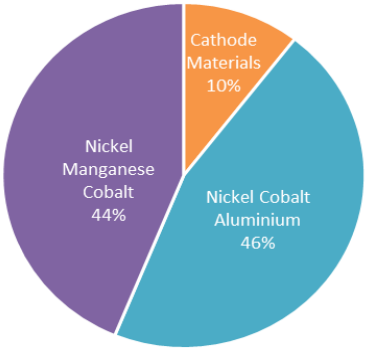
		EM Fund	Cathodes Niche
Cathodes	**LC**	**21.3%**	**100.0%**
Nickel Cobalt Aluminium	NCA	9.7%	45.70%
Cathode Materials	CM	2.2%	10.50%
Nickel Manganese Cobalt	NCM	9.3%	43.80%

Source: Niche AM

Geographical breakdown



Segment breakdown



Source: Niche AM

Chart July (30/06-31/07)

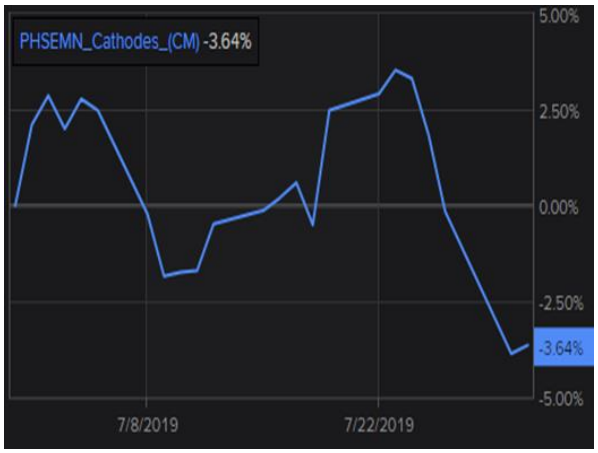
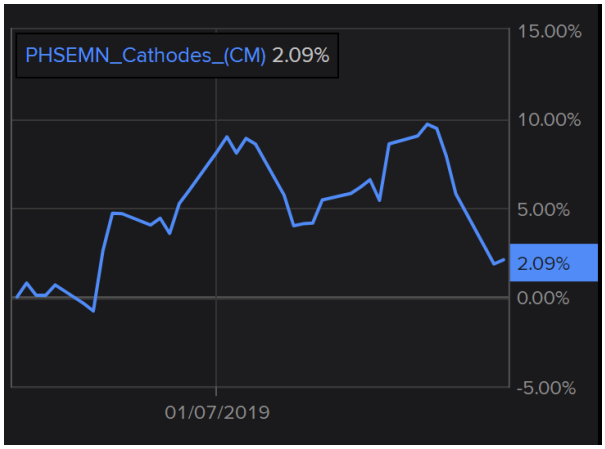


Chart since inception (11/06-31/07)

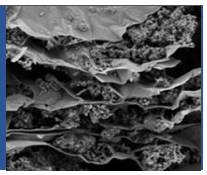


Source: Niche AM

Niche description

Cathodes represent the most valuable component of EV batteries (making up about 1/4 of the whole cost of the cell) and their chemistry is pivotal in determining energy density and capacity of the battery. Cathodes composition for EVs, for at least the next 5/7 years, will be mainly based on two different chemistries, NCA (nickel, cobalt and aluminium) and NMC (nickel, manganese and cobalt), as they provide the energy density needed to drive the electrification of mobility mass market. Lithium cells are normally named after the chemistry of their cathodes (NCA, NMC, LFP, etc).

Anodes



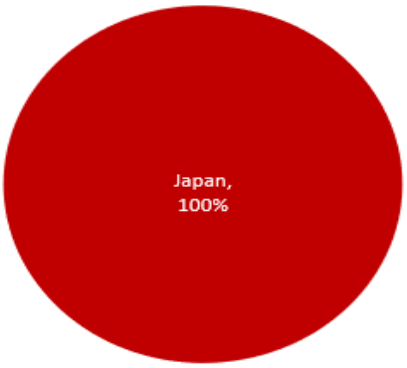
# stocks:	5	Average Market Cap (mln $)	1,334	Median Market Cap (mln $):	415

Anodes – segment breakdown

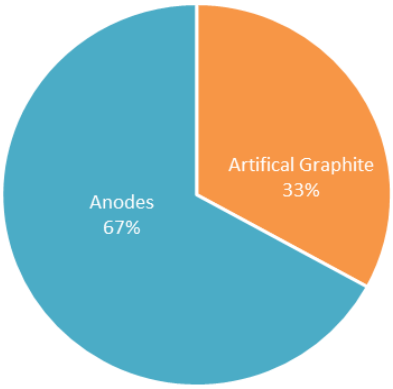
	EM Fund	Anodes Niche
Anodes	**10.3%**	**100.0%**
Anodes	6.9%	67.43%
Artificial Graphite	3.4%	32.57%

Source: Niche AM

Geographical breakdown



Segment breakdown



Source: Niche AM

Chart July (30/06-31/07)

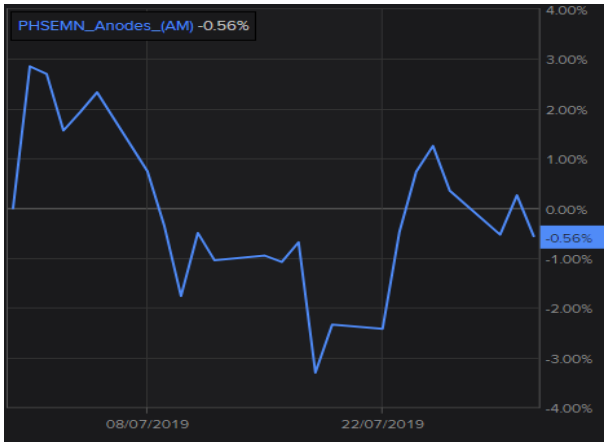
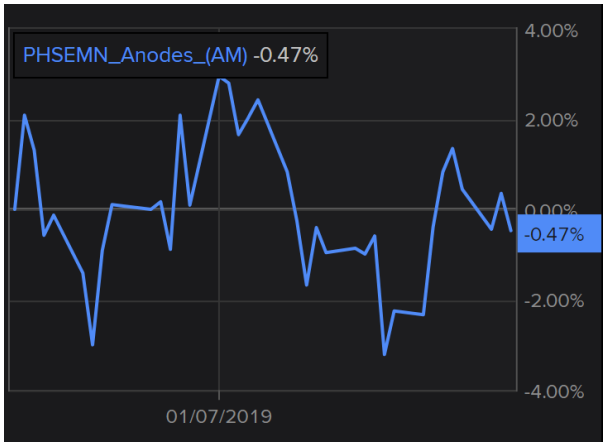


Chart since inception (11/06-31/07)

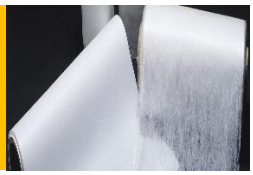


Source: Niche AM

Niche description

Anodes play an important role in determining the energy capacity and density of a battery, as they perform the role of storing and emitting Li-ions to and from the cathode. The anodes are coated on top of a copper foil, a metallic foil which acts as a current collector for the anode. Selecting a high-quality active material for anodes allows Li-ion battery cells to deliver both higher capacity retention and greater power. The selection of materials used in anodes plays a significant role in determining a battery's transmission and lifespan, which is the most important criteria in the material selection process.

Separators Makers



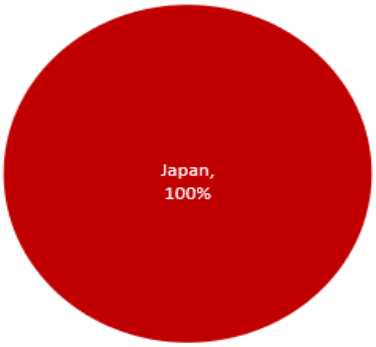
 # stocks: 3 *Average Market Cap (mln $):* 3,372 *Median Market Cap (mln $):* 3,109

Separators – segment breakdown

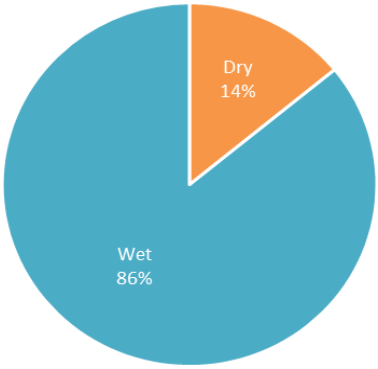
	EM Fund	Separators
Separator Maker	**8.8%**	**100%**
Dry	1.2%	14.1%
Wet	7.6%	85.9%

Source: Niche AM

Geographical breakdown



Segment breakdown



Source: Niche AM

Chart July (30/06-31/07)

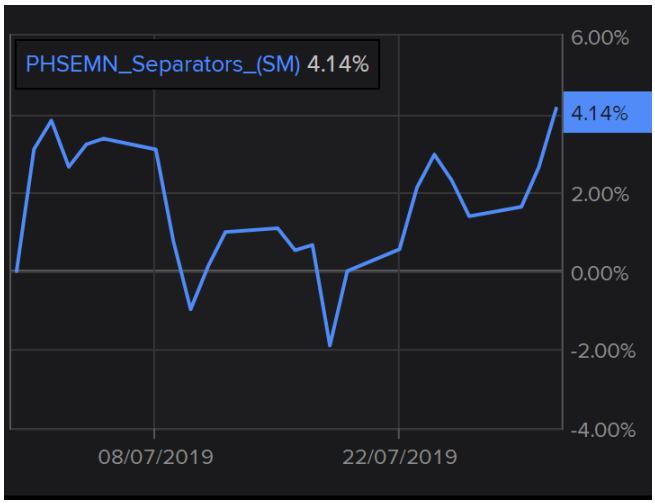
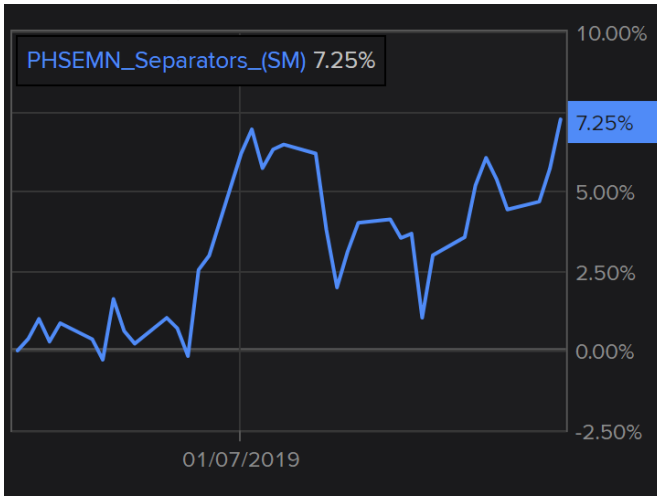


Chart since inception (11/06-31/07)



Source: Niche AM

Niche description

Separators determine the safety of a Li-ion battery as they act as an absolute barrier between the cathode and anode. Although separators account for only 5% of the battery cell content, they are the second-most significant raw material in terms of cost (about 10% of a Li-ion battery cost). The automotive separator market was worth some USD600m in 2015, and in the same year totalled 0.5bn sq m on a surface-area basis. This figure could grow to 20bn sq m by 2025, in line with the growth of the EV battery market. However, there is a risk in the future for this component as separators would be unnecessary if all solid-state batteries replace Li-ion batteries from 2030.

Electrolytes & Elecfoils

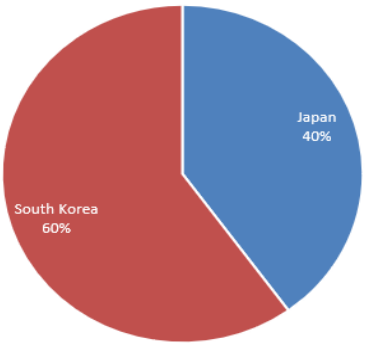
 # stocks: 3 *Average Market Cap (mln $):* *Median Market Cap (mln $):* 2,009

Electrolytes & Elecfoils – segment breakdown

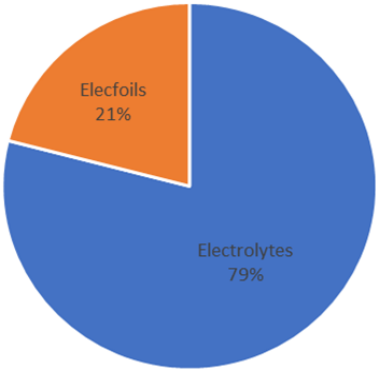
	EM Fund	Electrolytes Niche
Electrolytes & Elecfoils	**6.6%**	**100%**
Electrolytes	5.3%	79%
Elecfoils	1.4%	21%

Source: Niche AM

Geographical breakdown

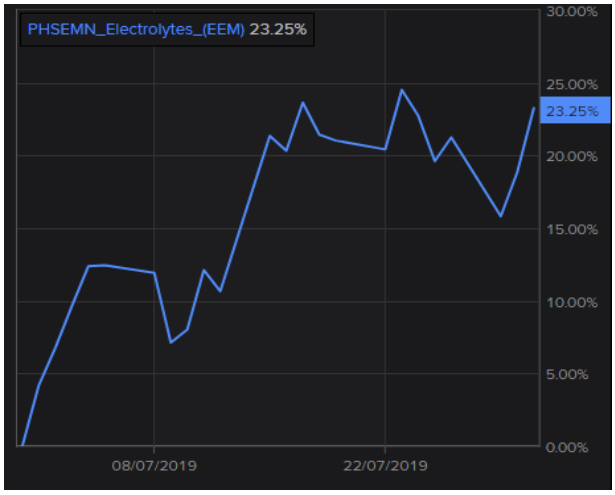


Segment breakdown



Source: Niche AM

Chart July (30/06-31/07)



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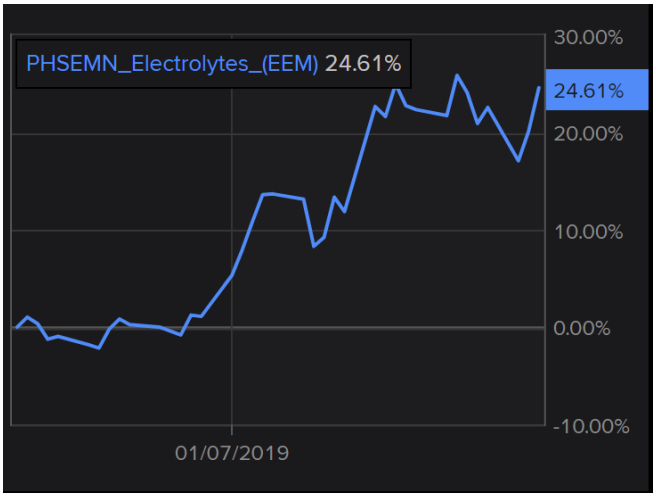


Source: Niche AM

Niche description

Electrolytes play a key role in enabling the use of electricity as they promote the movement of Li-ions between the cathode and anode. Electrolytes consist of solvents, salts and additives. Solvents act as dissolvers of the conducting salts. Salts are used as the passage for Li-ions to move and determine the ion conductivity. Additives serve a specific purpose and are usually added to the electrolyte to modify its properties. Materials with high ionic conductivity are essential so that lithium ions can freely move between the anode and the cathode. Therefore, the type of electrolyte used affects the speed of movement of Li-ions and the overall performance of the battery.

Commodities

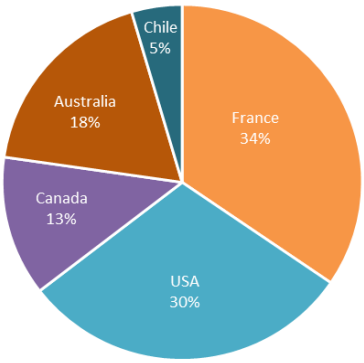
 # stocks: 5 *Average Market Cap (mln $):* 2,766 *Median Market Cap (mln $):* 1,163

Commodities – segment breakdown

	EM Fund	Commodities Niche
Commodities	**12.5%**	**100%**
Lithium	4.6%	37%
Natural Graphite	3.6%	29%
Nickel Sulphate	2.6%	21%
Cobalt	1.6%	13%

Source: Niche AM

Geographical breakdown



Source: Niche AM

Segment breakdown

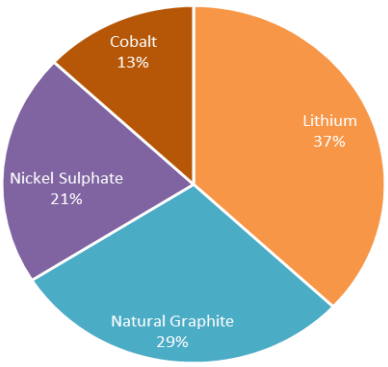
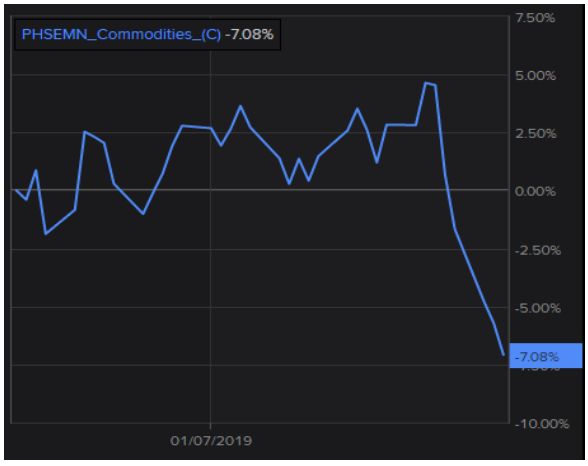


Chart July (30/06-31/07)

Source: Niche AM

Chart since inception (11/06-31/07)



Niche description

Commodities are vital to electric mobility. The need for cobalt, lithium and graphite will increase many times by 2025 while the need for nickel will almost double. Today the world looks unprepared for such a change and a gradual increase in the price of these commodities is likely. The path will be volatile but potentially highly rewarding.

Powertrains & UTs

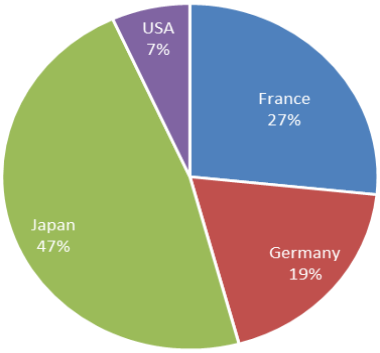
 # stocks: 5 *Average Market Cap (mln $):* 8,458 *Median Market Cap (mln $):* 6,845

PTs & UTs – segment breakdown

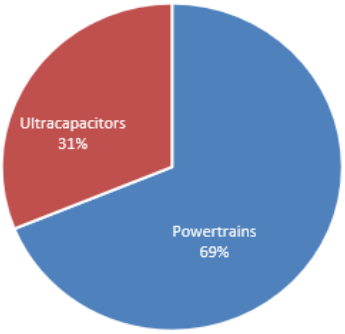
	EM Fund	Powertrains & UT
Powertrains & UT	**12,0%**	**100%**
Powertrains	8.3%	68.84%
Ultracapacitors	3.7%	31.16%

Source: Niche AM

Geographical breakdown



Segment breakdown



Source: Niche AM

Chart July (30/06-31/07)

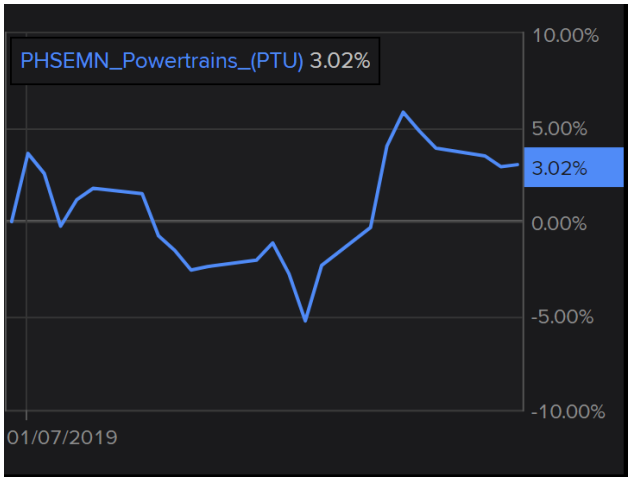
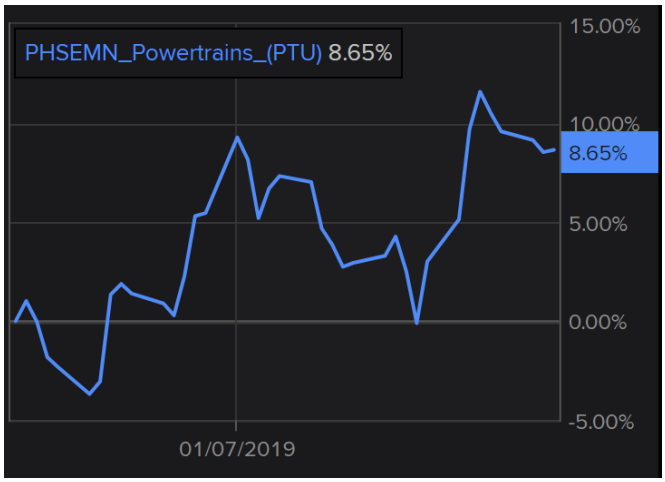


Chart since inception (11/06-31/07)



Source: Niche AM

Niche description

Powertrains will have to adapt to the electrification of mobility and many players are already active in providing new solutions to optimise the functioning of the EVs. Those better equipped to master the change could be able to gain market share and increase margins. At the same time ultra-capacitors could become an important complement of the electric powertrain, providing high power when needed, and in doing so increasing the performance and lengthening the life of the batteries.

ADAS

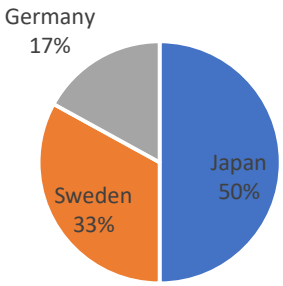
 # stocks: 4 *Average Market Cap (mln $):* 12,597 *Median Market Cap (mln $):* 11,552

ADAS – segment breakdown

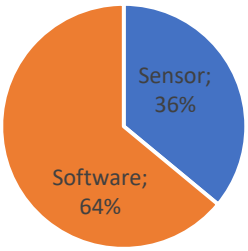
	EM Fund	Powertrains & UT
ADAS	**5.3%**	**100%**
Sensor	1.9%	36%
Software	3.4%	64%

Source: Niche AM

Geographical breakdown



Segment breakdown



Source: Niche AM

Chart July (30/06-31/07)

Chart since inception (11/06-31/07)

Source: Niche AM

Niche description

ADAS (advanced driver-assistance systems) represents the technologies that gradually will make the vehicles easier and safer to drive. The end-goal here is to be able in the future to have fully autonomous vehicles. While the concept is fascinating, we should realise that this process has been ongoing for many decades, even if the investors started to focus on it only a few years ago. After few years of enthusiasm and great investments the market realised that it will take decades to have fully autonomous cars and they dumped the sector. We think that the market now provides terrific opportunities to invest in quality companies at low valuations.

EV Makers

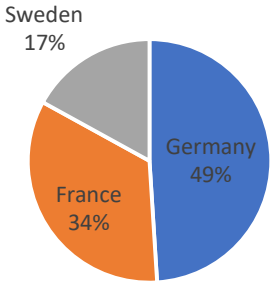
 # stocks: 4 *Average Market Cap (mln $):* 18,568 *Median Market Cap (mln $):* 12,042

EV Makers – segment breakdown

	EM Fund	EV Makers Niche
EV Makers	**4.5%**	100%
Cars	3.7%	82.7%
Forklifts	0.8%	17.3%

Source: Niche AM

Geographical breakdown



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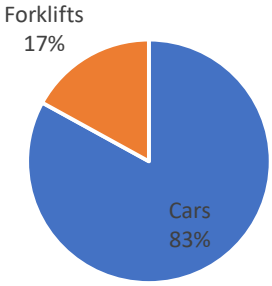

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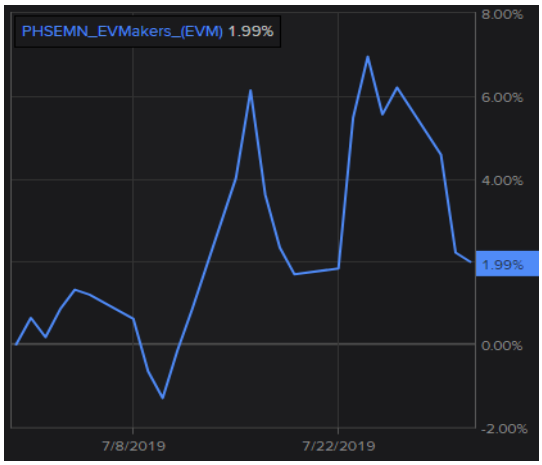

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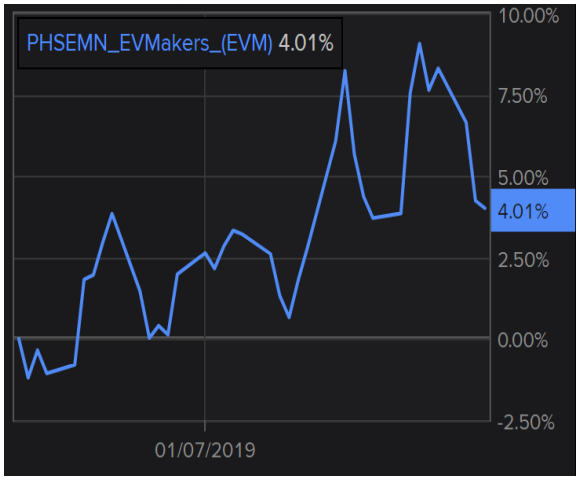


Source: Niche AM

Niche description

In a not too distant future, we will move by ground, water and air using electric vehicles. Be it a bike, a motorbike, a car, a truck, a forklift, an excavator, a helicopter, a boat, etc. Most of the companies will be able to switch into the new technology but few of them will swiftly gain market share. Furthermore, once the potential clients will realise that an EV is cheaper, more convenient and more comfortable to drive, the demand will jump and will lead to significant margins expansion for those that have prepared in advance for it.

Satellite Areas

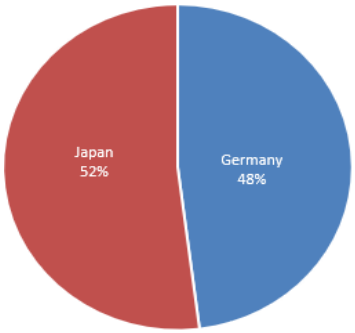
 # stocks: 3 *Average Market Cap (mln $):* 3,188 *Median Market Cap (mln $):* 1,877

Satellite Areas – segment breakdown

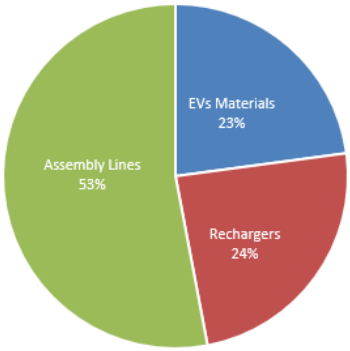
	EM Fund	Steel Substitution Niche
Satellite Areas	**3,3%**	**100%**
EVs Materials	0.8%	22,9%
Rechargers	0,8%	24,1%
Assembly Lines	1,7%	53%

Source: Niche AM

Geographical breakdown



Segment breakdown



Source: Niche AM

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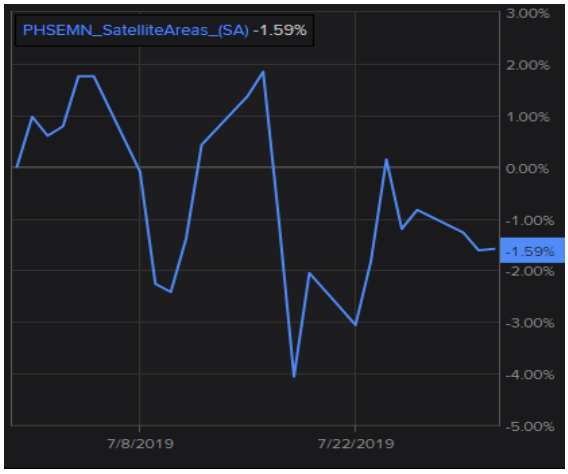

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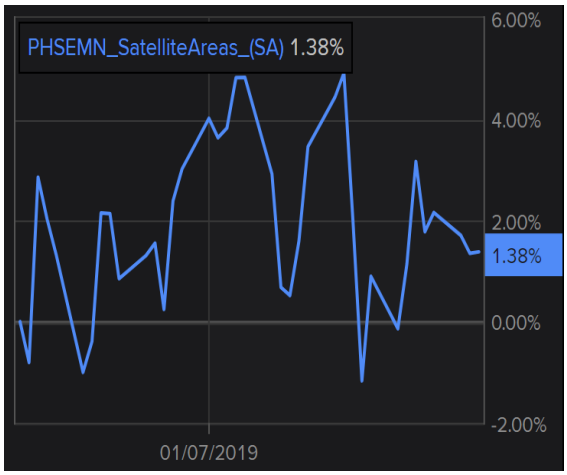

Source: Niche AM

Niche description

The passage from the internal combustion powered vehicles to battery powered vehicles will a seismic shift. The underlining market for batteries is likely to multiply by more than 30 in less than ten years by value, reaching that of semiconductors. One billion of cars and hundreds of millions of other vehicles will be affected. The spill over effect will be massive and many sectors will morph radically. This niche tries to pick the companies that could indirectly benefit from this historical shift.

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