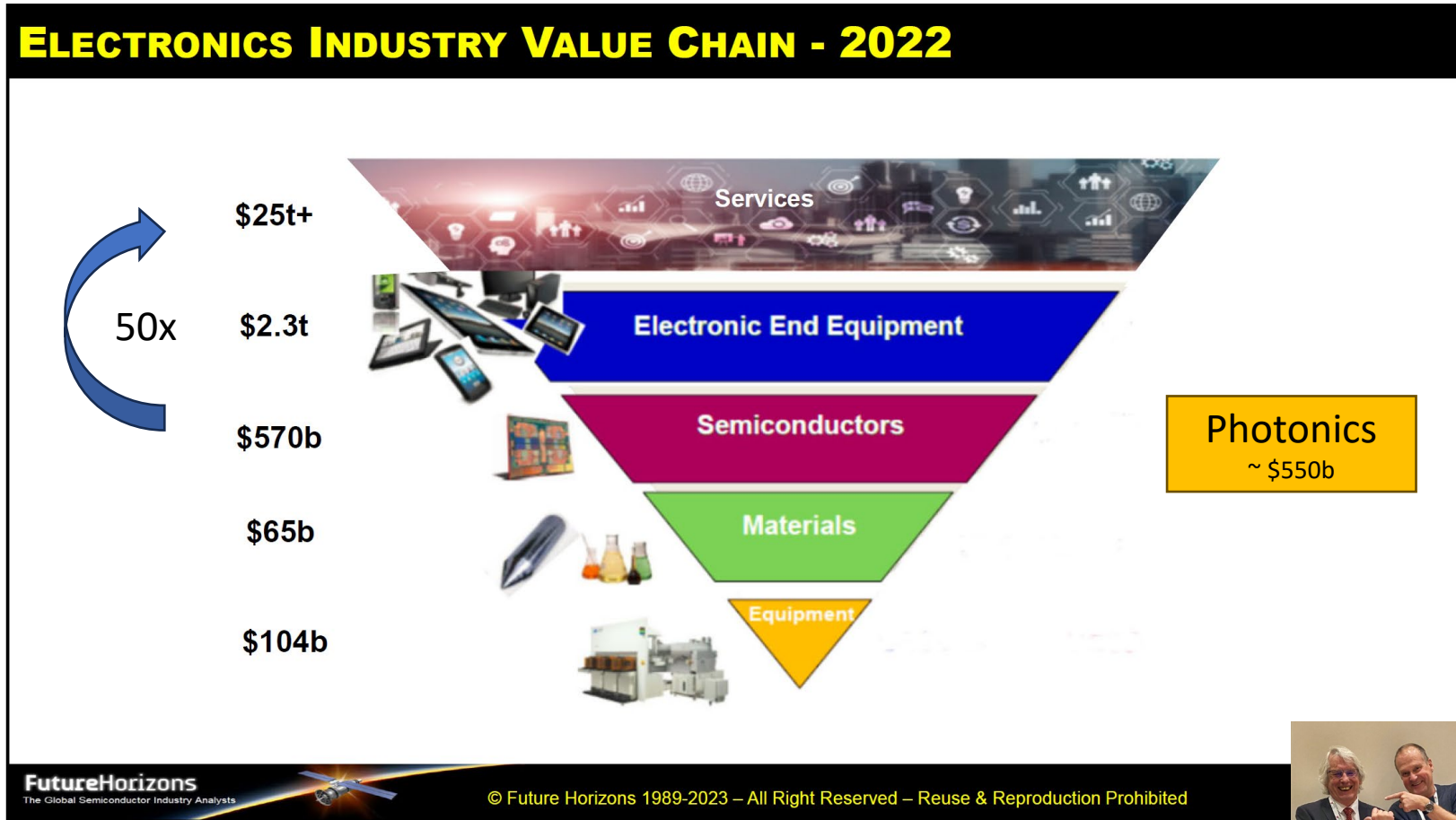


Swiss CHips Act

Reinhard Voelkel, CEO SUSS MicroOptics

Semiconductor (SEMI) industry enables!



Malcom Penn, <http://www.futurehorizons.com/>



SEMI remains a challenging business

- 17 down-turns since 1957
- 2020 – 2023 global chip shortage
 - COVID-19 pandemic (supply chain)
 - China – US trade war
 - Russia – Ukraine war
 - Crypto, AI, chat GPT, ...



Even ordinary citizens suddenly knew what a microchip was!

• SEMI Chips Acts and government funding (est.)

USA	Korea	China	Europe	Switzerland
\$280b	\$228b	\$50b	\$47b	0

Malcom: The most dangerous 4 words are «This crisis is different»

What will be the impact of global Chip Acts?

Will we get high-end chip manufacturing back to Europe and the US?

Would we pay more for US or EU micro-chips?

Are the goals of these Chip Acts realistic?

SEMI industry in Switzerland?

Number of Semiconductor Manufacturers with a Cutting Edge Logic Fab										
SiTerra										
X-FAB										
Dongbu HiTek										
ADI	ADI									
Atmel	Atmel									
Rohm	Rohm									
Sanyo	Sanyo									
Mitsubishi	Mitsubishi									
ON	ON									
Hitachi	Hitachi									
Cypress	Cypress	Cypress								
Sony	Sony	Sony								
Infineon	Infineon	Infineon								
Sharp	Sharp	Sharp								
Freescale	Freescale	Freescale								
Renesas (NEC)	Renesas	Renesas	Renesas	Renesas						
Toshiba	Toshiba	Toshiba	Toshiba	Toshiba						
Fujitsu	Fujitsu	Fujitsu	Fujitsu	Fujitsu						
TI	TI	TI	TI	TI						
Panasonic	Panasonic	Panasonic	Panasonic	Panasonic	Panasonic					
STMicroelectronics	STM	STM	STM	STM	STM					
HLMC	HLMC		HLMC	HLMC	HLMC					
UMC	UMC	UMC	UMC	UMC	UMC		UMC			
IBM	IBM	IBM	IBM	IBM	IBM	IBM				
SMIC	SMIC	SMIC	SMIC	SMIC	SMIC				SMIC	
AMD	AMD	AMD	GlobalFoundries	GF	GF	GF				
Samsung	Samsung	Samsung	Samsung	Samsung	Samsung	Samsung	Samsung	Samsung	Samsung	Samsung
TSMC	TSMC	TSMC	TSMC	TSMC	TSMC	TSMC	TSMC	TSMC	TSMC	TSMC
Intel	Intel	Intel	Intel	Intel	Intel	Intel	Intel	Intel	Intel	Intel
180 nm	130 nm	90 nm	65 nm	45 nm/40 nm	32 nm/28 nm	22 nm/20 nm	16 nm/14 nm	10 nm	7 nm	5 nm



SEMI fabs:



- Hitachi (ABB), em (Swatch), II-VI, Sensirion, ...

Me too!

SEMI equipment suppliers:

- VAT, Evatec, ETEL, Sawatec, Comet, SUSS MicroOptics, ...

Key enabling technology!

Switzerland in the global value chain

- Switzerland is an exporting country [2022]
 - Export 278 Mrd CHF (EU 50%, USA 18%, China 6%, Japan 3%)
 - Import 235 Mrd CHF (EU 69%, China 9%, USA 6%)
- Swiss industry could not produce and export without import of critical goods like, e.g., micro-chips!
- Swiss SEMI industry exports key enabling technology (KET) required for all SEMI fabs worldwide.

Does Switzerland need a SEMI industry?

Is it worth to fight against unfair competition?

Is it worth to support Swiss SEMI industry?

Lessons learned from COVID-19

During COVID-19, the supply of medical goods was very critical as many export restrictions were introduced.

- Hamilton Bonaduz is global market leader for respiratory care. 
- Switzerland continued to export.
- **Switzerland has always been able to negotiate and circumvent export bans.**
- Swiss SEMI is a strong instrument to negotiate micro-chip supply for Swiss industry in difficult times.



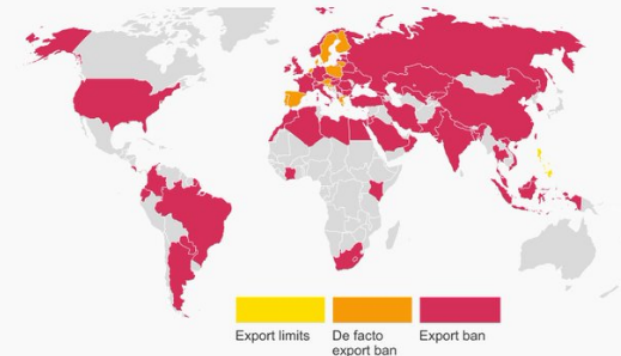
Simon J. Evenett

@SimonEvenett · Folgen



Not a Good Friday: Just tallied up the latest info on export curbs on COVID-19 medical supplies. 102 curbs imposed so far this year by 75 nations. Spreading now in North Africa and Latin America. Some reversals (notably India). On net, moves in the wrong direction.

Sicken Thy Neighbour:
At some point this year 75 nations have limited exports of medical supplies



Source: Media reports, assembled by the Global Trade Alert team, University of St. Gallen, Switzerland. 10 April 2020.

Swiss Chip Act

- Switzerland has no SEMI organization
- Swiss SEMI industry was not visible
- Swiss Chip Act initiative was launched by Cemal Aydogan and Tobias Keller from Hitachi (ABB) in 2022
- Swissmem industry sector SEMI was launched in Jan 2023



Claudia Bingen • 1st

Marketing Communication Manager at Hitachi Energy Ltd.

Hitachi Energy [#semiconductors](#) in Lenzburg hosted the Swiss semiconductor companies to discuss actions for [#sustainable](#) [#innovation](#) and about the [#ecosystem](#) in Switzerland's semiconductor industry.

Global Chip act and semiconductor initiatives are influencing the semiconductor industry worldwide. The main focus of this initiative is the exchanging of expertise and support for innovation in Switzerland's semiconductor ecosystem.

More than 50 semiconductor companies with cutting-edge technologies are existing in Switzerland and 15k high skilled [#engineers](#)/ scientists/ workers are employed in this industry.

[#HitachiEnergy](#) [#EMMicroelectronic](#) [#SussMicrooptics](#)
[#IIVILaserEnterprise](#) [#Axetris](#) [#Evatec](#) [#AlpesLasers](#) [#Exalos](#)



Awareness: Switzerland has a SEMI industry!

- Most Swiss SEMI companies are global players, who could move out of Switzerland.
- It is of high strategy interest for Switzerland to keep SEMI industry in Switzerland.
- Swiss government recognized and understands the issue!



Helene Budliger Artieda  @SECO_StateSec · 1. Mai

🗣️ Échange constructif à Neuchâtel avec l'industrie locale des semi-conducteurs ⚡ et le conseiller d'État Alain Ribaux sur les défis actuels du secteur. Un grand merci également à @SafranNT pour son hospitalité et l'aperçu de ses technologies impressionnantes.



ne.ch Canton de Neuchâtel  @Etat_Neuchatel · 28. Apr.



Jeudi, @SECO_StateSec était en visite dans le canton @Etat_Neuchatel. L'occasion de présenter les enjeux de l'économie et de la recherche neuchâteloise, ainsi que de l'industrie des semi-conducteurs @SafranNT. La 🇨🇭 doit rester compétitive face aux concurrents ...

[Mehr anzeigen](#)

Swiss CHip Act

What will happen now?

Do we get a Swiss CHip Act?

First actions!

- EU Horizon Package
- ETHZ SwissChip funding
- Swissem Industry Sector SEMI
- SECO, SBFI, ...

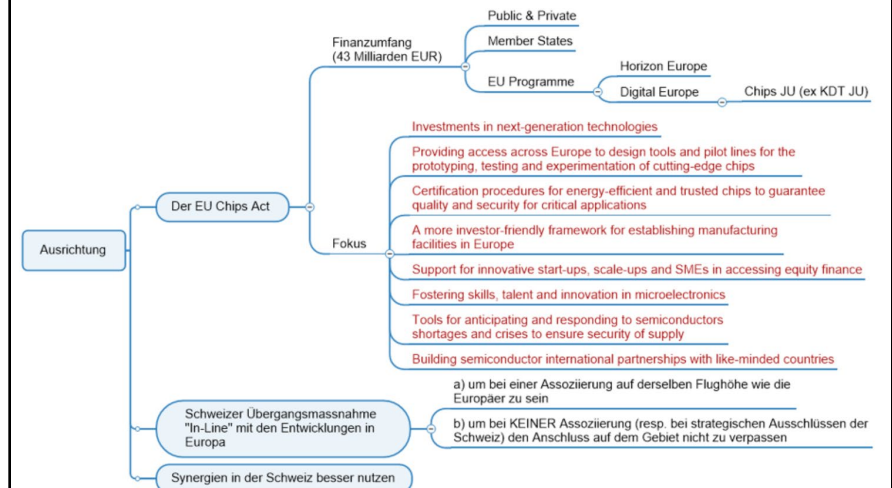
Swissem Politabend «Die Schweizer Halbleiterindustrie»

P. Brönnimann, 30.05.2023

SBFI Massnahme im Halbleiterbereich

- Wir stehen ganz am Anfang
- Vorläufiger Projektname ⇨ «SwissChip»
- Angestrebter Start ⇨ 01/2024
- Mögliche inhaltliche Schwerpunkte:
 1. Förderung Talente (Doktoranden, Post-Docs), die an R&I-Projekten im Bereich Chipdesign arbeiten.
 2. Fachkräfte zur Unterstützung der Chipdesign-Aktivitäten.
 3. Multi-Project-Wafer (MPW)-Prototyping-IC-Fertigungsläufe mit Foundries.
 4. Equipment (z. B. IC-Tester, spezielle Messgeräte für die Chipmessung, Spezialchipverpackung usw.)
 5. *(WTT zur Unterstützung von Spin-off-Unternehmen in der Pre-Seed-Phase, mit besonderem Schwerpunkt auf Innovationen im Bereich der fabless semiconductor und EDA Design Tools)*

EU Chips Act ⇔ Schweiz



Swiss CHip Act

Switzerland is different!

What would make sense for Swiss SEMI (and Photonics) industry?

But YES, we need a Swiss CHip Act!