





**“Education is the most powerful weapon which you can use to change the world.”**

(Nelson Mandela)

Technological advancements make education more accessible and affordable. This development has helped not just during the COVID-19 pandemic but will lastingly change the way we educate ourselves and drastically improve global educational services.

The **Solactive ARTIS® Online Education Index** is set to benefit from technological advancements that shape the landscape of education.

### **Solactive ARTIS® Online Education Index Concept**

Education is the foundation of prosperity, progress, success, and equality – and most importantly, a basic human right. However, like everything, it is subject to constant change. In particular, the technological advancements of the past decades have shaped the educational systems. From the introduction of projectors or computers to today's smart solutions, technologies change how we educate ourselves, and they will relentlessly continue to do so.

The latest developments have led to an increase in e-learning and distance learning, not just as an answer to the COVID-19 pandemic, but also to address the lack of education in more remote areas. Not only the Millennium Development Goals but also the Sustainable Development Goals set by the United Nations (UN) define the access to education for every human being as a highly relevant matter.

Technological developments paired with political efforts and the effects of the COVID-19 pandemic make online education a very important topic, which opens up a market that is set to grow massively. In 2019 alone, more than USD 18 billion have been invested globally into education technology companies. To put this in perspective, the investments in 2018 and 2019 combined succeeded the overall investments of the previous 20-year period.<sup>1</sup>

The **Solactive ARTIS® Online Education Index** is based on a global universe of stocks with an average daily trading volume of at least USD 1 million over the last six months before the selection date and a market capitalization of at least USD 100 million. Among the set of companies, the ones that are most relevant to the theme have been selected using Solactive's proprietary natural language processing (NLP) tool ARTIS® (Algorithmic Theme Identification System). The relevant companies have been selected using keywords such that the resulting index of the 30 most relevant companies provides exposure to the following fields:

- Education technology (including learning management systems, software, and hardware)
- Education providers (including primary, secondary, tertiary, and professional education)

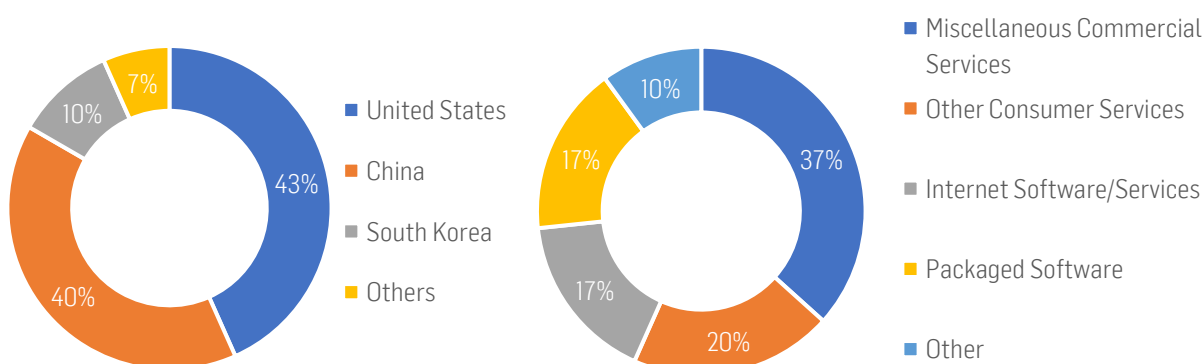
The investments into educational technology soared already before the COVID-19 pandemic. Nevertheless, it is worth considering what happens when educational institutions open again and societies eventually approach pre-pandemic conditions. By now, people have realized the immense advantages of online education, which consequently will increase its relevance in complementing traditional education.



The relevance is two-sided: First, online education and other education technology improvements are set to complement the traditional style of education. Moreover, its characteristics of accessibility and affordability make it the perfect solution to increase literacy in areas where educational opportunities are rare. Additionally, it is the perfect match for tertiary educational needs due to its flexibility.

Out of the 30 index constituents, 12 are active in the field of technology, 11 in the field of industrials, and 7 render consumer services. More specifically, 10 companies produce software, while 11 provide commercial and 6 consumer services. The majority of companies is located in the United States of America (13) and China (12), while there are 3 in South Korea and 1 each in Japan and Canada.

**Figure 1: Index Composition by Country and Industry Classification**



Source: Solactive, FactSet.

The basket selected in the first quarter of 2021 would have demonstrated an average annualized return of 47.02% and a volatility of 41.24%, over the back-casting period since January 2020, resulting in a Sharpe ratio of 1.14. The maximum drawdown amounted to 27.94%, as depicted in Figure 2 and Figure 3.

**Figure 2: Back-Cast from 01/01/2020 until 15/04/2021, Gross Total Return [USD].**

The 30 constituents have been selected on the 09th of February 2021, are weighted equally and rebalanced quarterly.



Source: Solactive, FactSet.



Figure 3: Key Performance Indicators of the Index Back-Cast [01/01/2020 – 15/04/2021]

01/01/2020 – 15/04/2021	Solactive ARTIS® Online Education Index
Total Return	65.57%
Average Return p.a.	47.02%
Max. Drawdown	-27.94%
Volatility p.a.	41.24%
Sharpe Ratio	1.14

Source: Solactive, FactSet.

The following companies are representative examples of index constituents and different covered business areas. Figure 4 shows the latest development of the companies' revenues and their total stock returns:

- **Zoom Video Communications Inc.** (United States), founded in 2011 by Eric Yuan, provides a unified communications platform that enables users to interact frictionlessly and securely via video, phone, and chat with potentially thousands of people in a single meeting. Recently, the usage of Zoom's services in online lectures and remote classrooms increased.
- **Docebo Inc.** (Canada), founded in 2005 in Italy, provides a learning management system that is already used by more than 2000 companies. It is created to allow companies to design and brand their own educational program to foster the development of their employees.
- **Chegg Inc.** (United States), founded in 2005, is an interconnected learning platform. It provides students with tools and services that support them throughout their educational journey. Their services comprise, for example, Chegg Writing, Chegg Math solver, or Thinkful, a platform that offers professional courses to students.
- **GSX Techedu Inc.** (China), founded in 2014, is a technology-driven education company that offers learning services for primary, secondary, tertiary, and professional education. Its online education platform Genshuixue allows its users to search for courses, both local and online.
- **Youdao Inc.** (China), founded in 2006, is a technology company that provides smart learning solutions. With more than 100 million monthly active users, the company is an influential player in the online education market. Their offerings comprise learning products, services, interactive apps, and smart devices.



Figure 4: Development of Revenues and Stock Returns of exemplary Index Constituents

	Zoom	Docebo	Chegg	GSX	Youdao
Revenue 2020 [in million USD]	2651	63	644	1032	459
Revenue 2019 [in million USD]	623	41	411	306	189
Change in Revenue	326%	52%	57%	237%	143%
Total Stock Return [01/01/2020 - 15/04/2021]	389%	268%	142%	10%	65%

Source: Solactive, FactSet.

## The Humanitarian Needs for (Online) Education

The core of the 2030 Agenda for Sustainable Development – which was created by the United Nations – consists of 17 Sustainable Development Goals (SDGs)<sup>2</sup>. These SDGs define the most urgent and pressing matters that the international community of states should tackle to achieve global peace and prosperity. The SDGs are only the latest addition in this ongoing fight for a better world, adding to the Millennium Goals<sup>3</sup> and the Education for All (EFA) movement led by the UNESCO.

Moreover, the Incheon Declaration adopted by the World Economic Forum in Incheon, South Korea, in 2015, seeks to improve international education and was later adopted by the UN and incorporated into the SDGs. This declaration states, for example, that countries are supposed to develop solutions for the provision of distance learning with the appropriate use of technology. Massive open online courses (MOOCs) are identified as a valuable tool to increase access to quality education while reducing costs, which is especially important in the context of developing countries.<sup>4</sup>

The COVID-19 pandemic has interrupted the education of more than 168 million children globally for a full year,<sup>5</sup> leaving them disadvantaged and lastly paying the heaviest price. Appreciating online education as a future complement to traditional education and consistently promoting the implementation of state-of-the-art technology prevents these children from missing even more.

## Final Remarks

The importance of education cannot be overstated. Fortunately, international policymakers are aware of that topic, and so are the companies listed in the **Solactive ARTIS® Online Education Index**. Their technological advancements and offerings are not only aligned with important political goals but are also the perfect answer to school closings due to the COVID-19 pandemic. We expect the index constituents to prosper not only from increasing temporary demand for their offerings but from a structural change. Online education is and will be the decisive tool to educate people in remote areas, people depending on a flexible schedule, people on a tight budget, and more who are disadvantaged in the traditional educational system.



## References

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