

# **API**

## **ECONOMY 101**

### **CHANGES YOUR BUSINESS**

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# **API ECONOMY 101**





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**Changes Your Business**

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## PREFACE TO THE ENGLISH EDITION

After the Finnish edition was published in August 2018, we received so much encouraging feedback from our readers and requests from the people who couldn't read the book in Finnish to produce an English edition that we took the demand seriously. The task of translating the book from Finnish to English was quite difficult and costly because the languages are so different. We were grateful to get sponsors to help us use professional editing and allocate time from our busy schedules.

The companies and individuals who made this English edition possible:

**Digia Finland Oy** – leading digital software and service provider specializing in digital solutions, APIs, integrations and data services. Read more <https://blog.digia.com/topic/api>

**Osaango Oy** – API and platform economy educators, consultants and API developer experience reviewers. Osaango's APItalista and co-author of this book, Marjukka Niinioja created a free course related to this book with Tampere University professor Marko Seppänen, also a co-author. Join hundreds of others in the course at <https://www.apieconomy.info>

**Foccus Design s.r.o.** – providers of APItalks.com instant API for your data, based in Czech Republic, read more <https://www.apitalks.com/>

**Heeros Oyj** – makers of cloud-based financial systems provided in Finland and the Netherlands, read more: <https://www.heeros.com/en/>

**HH Partners Oy** – attorneys at law focusing on technology, intellectual property and transactions, read more:  
<https://www.hhpartners.fi/en/>

We would also like to thank companies and individuals who encouraged us to make this English edition come true, but who prefer to stay anonym. You know who you are dear family members, colleagues and ex-colleagues, business partners and fellow API-enthusiasts. For the English edition to be possible at all, we'd like to give special thank you to Ari Nyfors from Transfluent for helping us get started with the project, to Erkki Saastamoinen and Sanna Toivanen from Kesko Oyj for all the worm support, Suna Koljonen and the whole Digia team for continuous support, fellow authors Amancio Bouza and Antti Merilehto for encouraging us both with their amazing attitudes but also sharing the good word on our book and Alena Vejsadová from Foccus Design for staying with the project all autumn and making it possible to get our book to the Czech audiences with a bang.

Helsinki, February 10<sup>th</sup>, 2019

Marjukka Niinioja, Marko Seppänen, Jarkko Moilanen and Mika Honkanen

# PREFACE

The idea to write this book arose as Finland celebrated the 100th anniversary of its declaration of independence. We asked ourselves: How will Finland succeed in the next hundred years? How can we continue to ensure its competitiveness in the future? From the government's point of view, the platform economy and artificial intelligence play a crucial role; the intention is to be a pioneer in both.<sup>1</sup> Whether it is artificial intelligence or platforms, the application programming interface – i.e., the API – plays a key part in all this.

So why did we now decide to write the book? In short, the time is ripe and, according to our experience, the need to build (better) APIs and employ novel technologies in companies is great. In the global economy, Application Programming Interfaces have become an increasingly important way to produce applications, build ecosystems, and participate in the platform economy. To meet this need, we felt it necessary to create a resource aimed at business decision-makers, solution architects, and IT managers.

Our paths around API and platform economy issues crossed at many events and projects. In November 2017, at the initiative of Jarkko Moilanen, we put together our team of authors. Writing alone, the perspective would have been more limited and one-sided; together, we complement each other with our expertise and are able to offer our readers more diverse content.

Our main concern was to examine the development of APIs (often still in their infancy) being used by Finnish companies, how little APIs are understood as part of business models, and the competitiveness of organizations. Ecosystems are created with government funding and by encouragement, and there were hardly any examples of platform economy to speak of.

In Finland, APIs have entered public debate over the past couple of years. In August 2017, *Tivi* magazine wrote a comprehensive cover story titled “API Brings Money.”<sup>2</sup> But do APIs and platform economy bring money to Finland, and if so, how will that happen? According to a study commissioned by the Finnish government, this is at least questionable.<sup>3</sup> A member of our author team, Marko Seppänen – together with a research team – has studied APIs and other platform economy boundary resources (explained in chapter 4) and their spread throughout the world. Finland is on the map in “good strokes,” to use a sports term, but is not at the center of development.<sup>4</sup>

With APIs, the “circular economy” of the IT world changed shape. Prior to the extensive use of interfaces in service development, services were produced by recycling code. Code recycling has become more common with open source, and some of the best-known open source victors are the Linux operating system created by Linus Torvalds, the Apache web server, the MySQL database, and the Android operating system.

Open source code changed the world, and that change was based on code recycling and reuse.<sup>5</sup> The open source code is usually the basis for reference implementations<sup>6</sup> and co-developed platforms.

Since then, the development of applications and services has become API-based. With APIs, new product development reuses and recycles code, allowing programming interfaces to be productized – both yours and others’. Therefore, the openness of source code is not so central to API-based service development.

Exploiting the APIs of external organizations – often those outside of typical partnerships – in the development of a service contributes to the transformation of companies into ecosystems, because interdependencies are created between organizations. Switching to API-based service development will radically reduce development time. At the same time, the time-to-market for solutions is shortened. Speed

is an asset and, therefore, API-based development has risen to default status.

From a business point of view, API facilitates rapid growth of the market for a company's products. Open APIs between companies, often referred to as partner APIs, open new digital routes for reaching end-users and provide consumers with new offerings. Instead of enduring a painful, months-long, traditional integration project, business collaboration can be done using APIs in weeks or even days.

Typically, partner interfaces are used to integrate a variety of services provided by several companies into ready-made packages. This, in turn, makes it easier for the end-customer to do business. The result is more service sales and a better customer experience; i.e., everyone wins.

Instead of a technical integration tool, APIs have started to become products in their own right or reusable tools for producing different applications.<sup>7</sup> Companies have therefore started to offer or sell interfaces on their own sites (so-called "developer centers") to their target groups. For these interfaces, the first forms of platform economy, such as common marketplaces, have been developed. One good example of this is Amazon Web Services (AWS).<sup>8</sup>

What happened to mobile applications has also happened to APIs, the only difference being the target group: mobile apps are sold to end-customers, and their installation and sales take place through consumer platforms (marketplaces) such as Google Play and Apple Store. "Platform" refers to a service and business model in which producers and consumers of a service or content meet and are partially overlapping. These appearances produce the desired network effect: the more consumers there are, the more service providers want to join the platform. This creates a loop that encourages both sides to produce more and more value for each other through the platform.

The APIs, in turn, are sold to the developers of these applications. However, the logic is the same: the product is introduced via the platform as a self-service product for either a fee or free of charge. Software developers became fascinated by the range of solutions available to speed up and facilitate the development of services. This interest gave birth to the API economy, where the API was no longer a byproduct or an additional feature accompanying the physical product, service, or information system. The API has increasingly become an independent, value-added product.

We hope this book will serve as a guide for your journey towards the API economy.

Tampere, April 30, 2018

Jarkko Moilanen, Marjukka Niinioja, Marko Seppänen, Mika Honkanen

API is technology and digital product used for artificial intelligence, platform economy, and internet. It has the capability to change business models dramatically. APIs (application programming interfaces) are becoming a major competitive factor for companies.

This book takes on the fundamental questions of API Economy and approaches the subject pragmatically and clearly without technical jargon. The book clarifies the birth and shape of the API Economy with numerous practical examples.

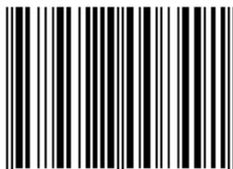
This is the first API Economy book based on scientific references. Originally this popular book was written in Finnish. It is a great start for students and advanced professionals alike. After reading this book, you will understand what it is all about and how to move forward and grow your business with APIs.

The authors are leading Finnish API-experts with an abundance of experience from API and platform economy as authors, researchers, and lecturers and consultants. Course material is available at [www.apieconomy.info](http://www.apieconomy.info) and a lean business oriented method for creating APIs at [www.apioscycles.com](http://www.apioscycles.com).

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