  
**PLC and HMI Development with Siemens TIA Portal – Second Editon**

(Example - <https://www.amazon.com/dp/1801079315>)

**Subtitle**

(100 characters)

Develop PLC and HMI programs using standard methods and structured approaches with TIA Portal

**Packtpub Metadescription**

(230 characters)

Become well-versed with the tools available in the Siemens TIA toolbox and write PLC and HMI code effectively

**Key features**

(100 characters per point)

* Find out how to use TIA Portal effectively to boost your productivity
* Learn about a structured design pattern and understand why it is so powerful when implemented correctly
* Discover efficient project management and design practices

**Approach**

(400 characters)

Complete with hands-on tutorials, projects and self-assessment questions, this easy-to-follow guide will teach you full project development and management, from concept through to programming and then to deployment

**Short description**

(350 characters)

PLC and HMI development with Siemens TIA Portal will help you to program STEP 7 PLCs and associated HMIs in TIA Portal v17. From the initial opening of the development environment to the downloading of a project, this book shows you how to prepare, structure, and program projects in a way that gets the most out of TIA Portal.

**Long description**

(1350 characters)

With automation requirements on the rise, Siemens’ TIA Portal development environment is almost a necessity for any automation engineer. The Totally Integrated Automation (TIA) environment helps seamlessly integrate all things automation, from PLC hardware and software design to HMI development. This book helps you understand the tools available in the TIA toolbox and shows you how to write code effectively.

The book begins by introducing you to the TIA environment, covering the layout and tools available. Once you’ve got to grips with the environment, you’ll find out how to create hardware to write programs against, including adding IO modules and assigning memory for input and output. Next, you'll develop logic in all of the languages that TIA Portal offers, such as Ladder, Function Block Diagram, and Structured Text (SCL) (note that Statement List is not covered as a deprecated language), as well as the newest language, Cause and Effect (CEM). You’ll also discover how to store standard code in libraries, creating a version control system that is easy to manage and aids standard design. Finally, following the PLC design chapters, you’ll learn how to develop HMI applications in TIA Portal’s latest unified hardware.

By the end of the book, you'll be well equipped to use all of the features that TIA Portal V17 offers.

**What will you learn**

(70 characters per point)

* Set up a Siemens Environment with TIA Portal
* Find out how to structure a project
* Carry out the simulation of a project, enhancing this further with structure
* Develop HMI screens that interact with PLC data
* Make the best use of all available languages
* Leverage TIA Portal’s tools to manage the deployment and modification of projects

**Audience**

(600 characters)

This TIA Portal book is for anybody looking to learn PLC/HMI development using the latest Siemens development platform. Industrial software engineers, PLC engineers, automation engineers, and electricians will be able to advance their skill set with this guide. A basic understanding of PLC principles such as PLC data types and basic objects such as function blocks and functions is necessary to get started.

**Author Bio**

(750 characters)

Liam Bee has worked in automation for over 16 years, after starting his career at 16 years old as an instrument technician in the water industry. He began his automation journey by maintaining PLCs and the instruments connected to them. He found very early on that he had an interest in PLCs and automation, taking the time to learn PLC programming in his own time, as well as exposing himself as much as possible to automation while working.

Over his years working with automation, he has learned many different languages and development environments. He has worked with Siemens, Allen Bradley, Schneider, Mitsubishi, and a host of other PLC platforms, all of which have helped shape the design concepts that he uses today. Liam has also taught himself computer programming languages such as VBA, VBS, VB.NET, C#, Java, and more. Closing the space between IT and industrial automation is important as time moves forwards and he has always tried his hardest to be at the forefront of innovation.