

Open Source @ Siemens

SBB Open Source Roundtable
November 30th, 2022



What we do at Siemens...



We commute in cars designed
with Siemens software...



... built in factories running
on Siemens automation ...



... and charged by a
Siemens smart grid.



We work in smart buildings that promote our health and safety...



... that use energy with maximum efficiency ...



... and connect the physical and the digital workplace.



We book our train tickets with
Siemens software ...



... to travel on trains
made by Siemens ...



... operated with Siemens
infrastructure technology.



We rely on life-saving drugs
and treatments...



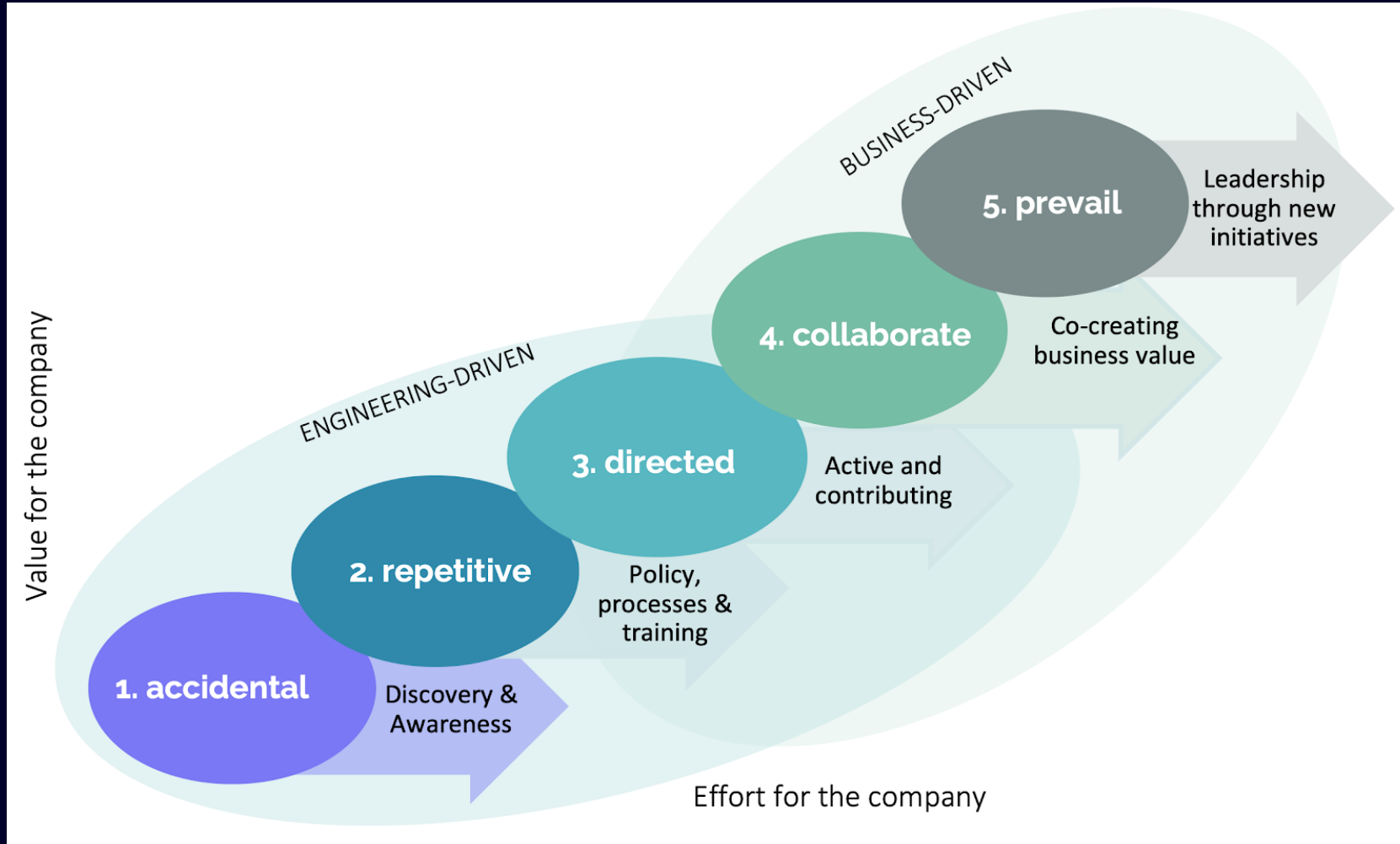
... as well as accurate
medical diagnoses, ...



... all of which are made
possible by Siemens solutions.

Products consist of
0% - 99%
Open Source

Maturity for Open Source adoption – Think about the level you need!



Guidance and further Information can be found on:

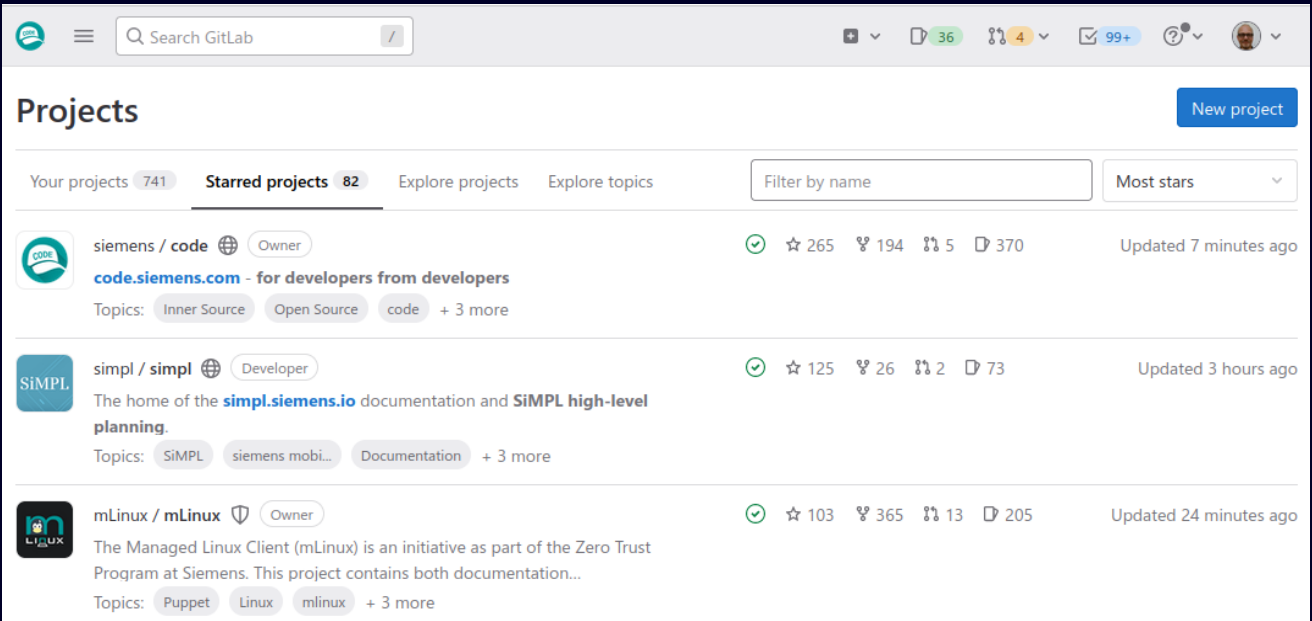
- <https://www.linuxfoundation.org/resources/open-source-guides>
- <https://todogroup.org/>
- <https://opensource.guide/>
- <https://spdx.dev/>
- <https://opensource.mercedes-benz.com/manifesto/>
- [bitkom Open-Source-Leitfaden](#)

Image Source: <https://debricked.com/blog/reaching-higher-levels-open-source-maturity/>

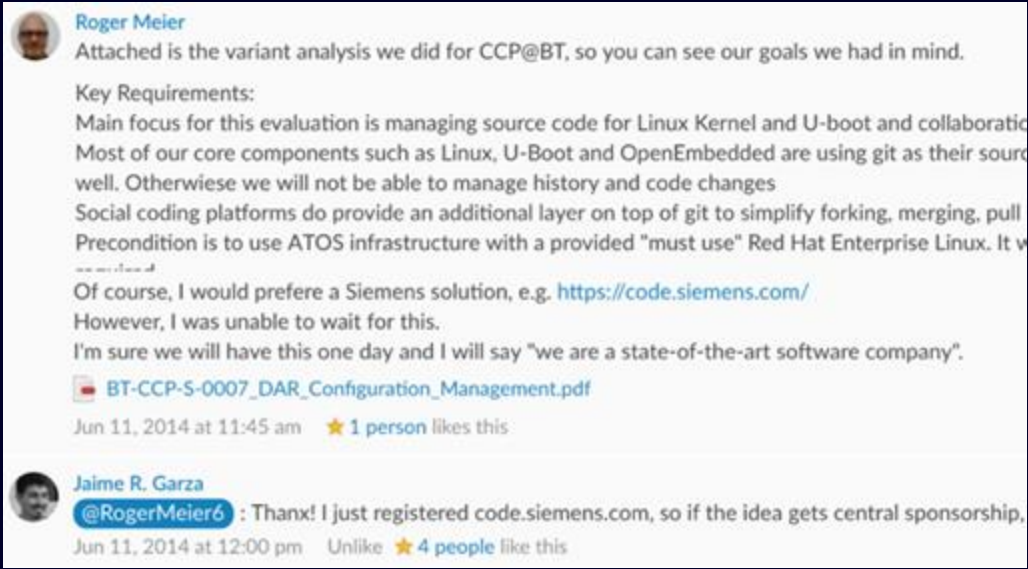
Establish an Open Source Culture

code.siemens.com - DevOps at scale

Social coding platform to collaborate on code within minutes.



Everything started with one Like

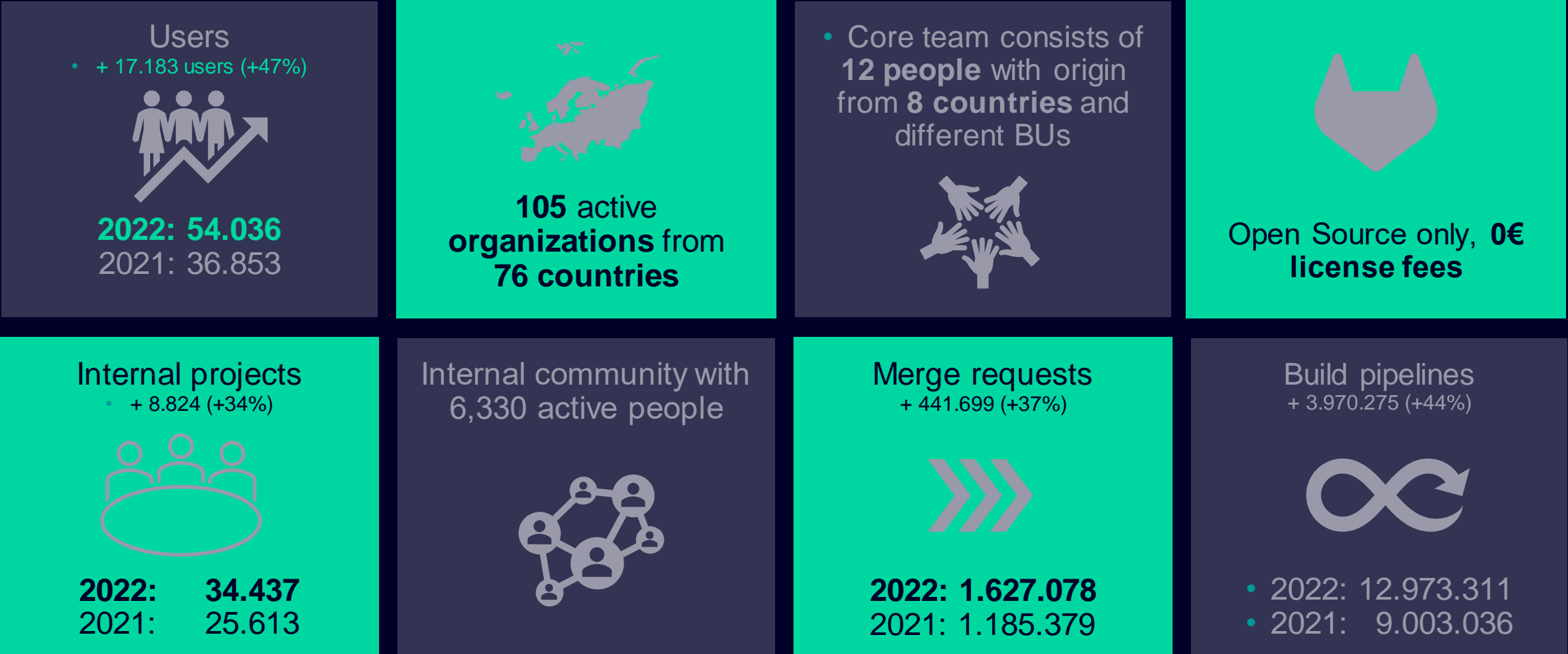


code.siemens.com - DevOps at scale

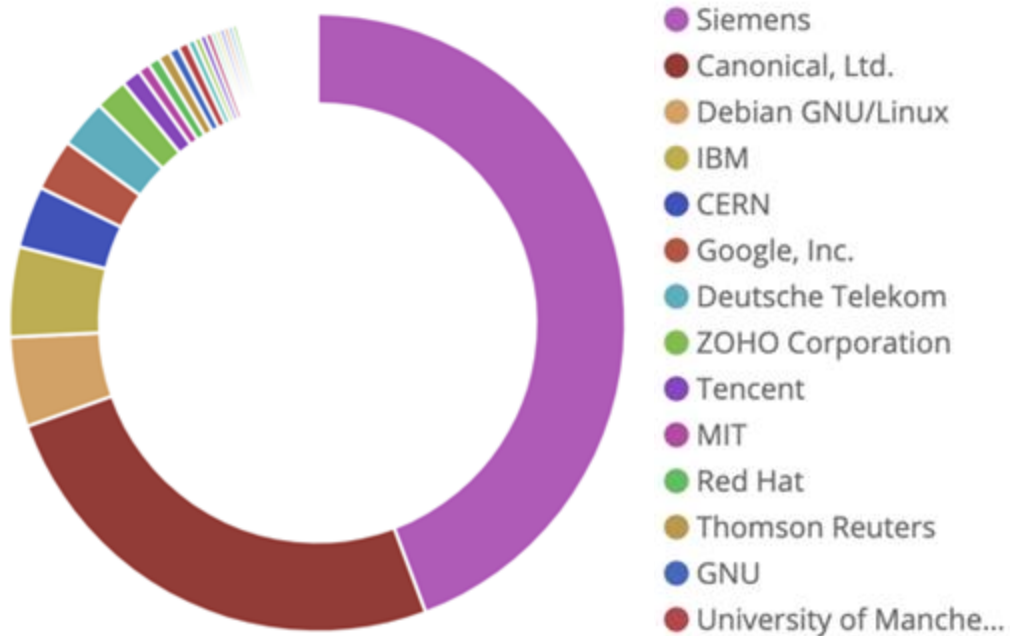
- Strong collaborative mindset, **cross silo thinkers**
- **Full Stack Engineers** (Architecture, Development, etc.)
- Experience as **Open Source contributor or maintainer**
- The platform itself is used to build the platform

Team Charter of code.siemens.com

code.siemens.com - DevOps at scale



Upstream first - no patches



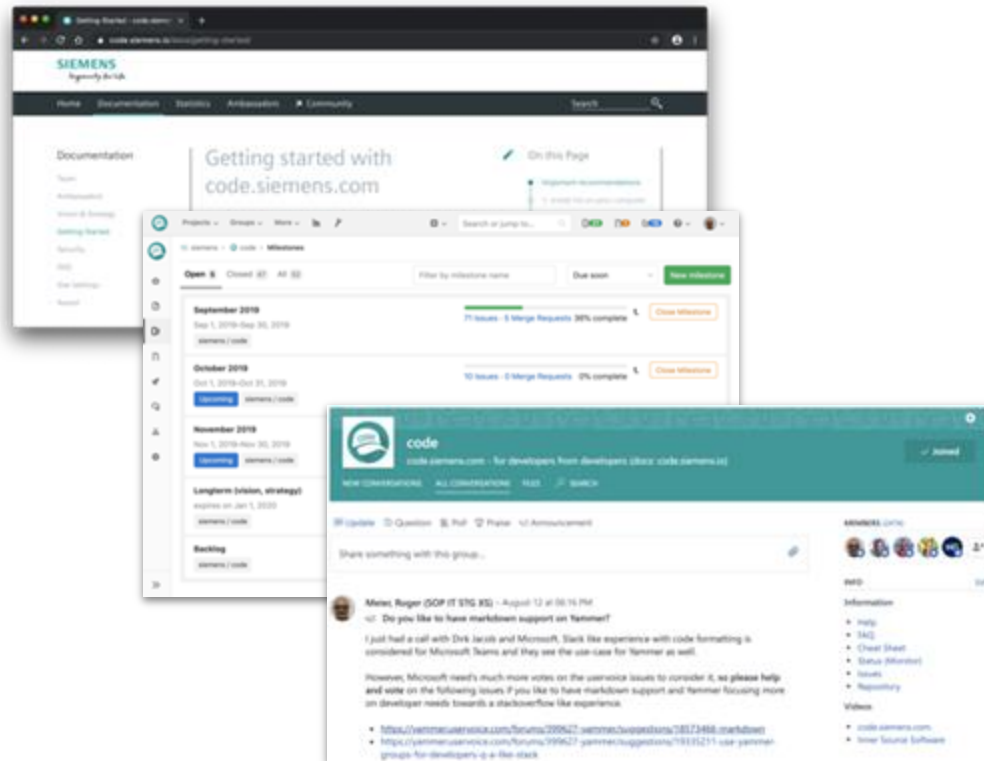
**> 300 merge requests to GitLab
10 elections as GitLab MVP (most valuable person) within the crew**

The code.siemens.com crew members are well known within the external and internal communities.

No help desk



Great engagement within the community via issue tracker, internal social network and extensive documentation



- **Documentation as Code**
- **Self-service whenever possible, e.g., people create a merge request**

From MailOps and TicketOps towards Company as Code

Social coding ambassadors

65 Ambassadors

Search through all ambassadors.

Zug, Switzerland

Community IDs

- code.siemens.com
- github.com
- gitlab.com
- openhub.net
- apache.org

open-source

inner-source

ci-cd

Zug, Switzerland

Community IDs

- code.siemens.com
- github.com
- gitlab.com
- openhub.net

open-source

inner-source

ci-cd

Muenchen, Germany

Community IDs

- code.siemens.com
- github.com
- gitlab.com
- stackoverflow.com

open-source

ci-cd

Zug, Switzerland

Community IDs

- code.siemens.com
- github.com
- gitlab.com
- bitbucket.org
- openhub.net

open-source

inner-source

ci-cd

Muenchen, Germany

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Muenchen, Germany

Community IDs

- code.siemens.com

Zug, Switzerland

Community IDs

- code.siemens.com

siemens > code > Merge requests > 12160

docs(ambassadors): add

as ambassador

Edit

Merged

requested to merge (removed):docs/new-ambassa... into main Jul 29, 2022, 3:36 PM

Overview 13

Pipelines 0

Changes 1

All threads resolved!

Hey everyone!

Starting my 4th year in the company, I wanted to dive a bit more in to the deep regarding the code.siemens.com. So far I've used the platform quite

- Review by admission team
- Add new ambassador to "Ambassadors of code.siemens.com" in Teams
- Add new ambassador to Outlook meeting invitations (Tu+We series)

Edited Aug 3, 2022, 9:48 PM by

Merge request pipeline #15688595 passed for d9b0042a Aug 3, 2022, 8:59 PM

Approved by

Test summary contained no changed test results null

View full report

Expand

Merged by Aug 3, 2022, 9:48 PM

Revert

Cherry-pick

Changes merged into main with f986a614.

Deleted the source branch.

Pipeline #15688967 passed for f986a614 on main Aug 3, 2022, 9:50 PM

5

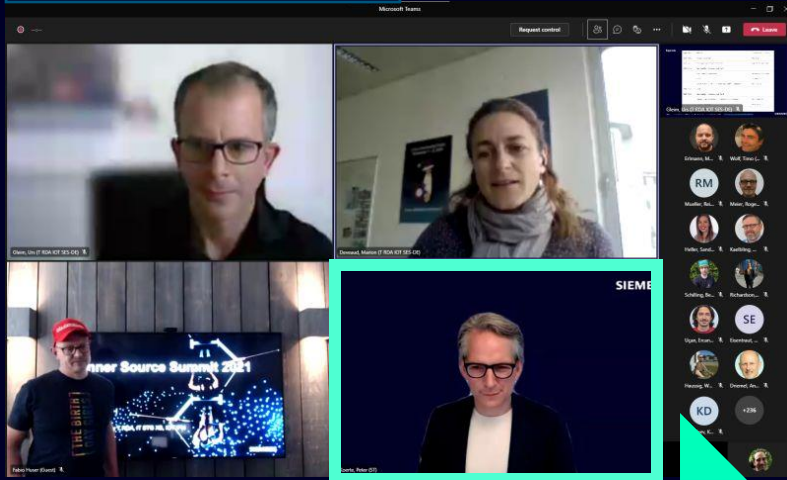
0

2

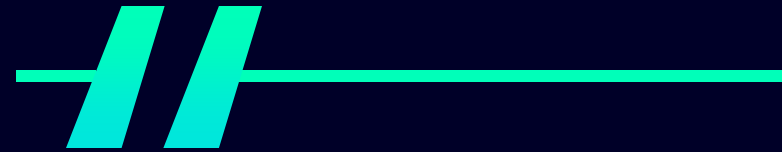
Sort or filter

Inner Source Summit > push collaboration culture into the company

2021

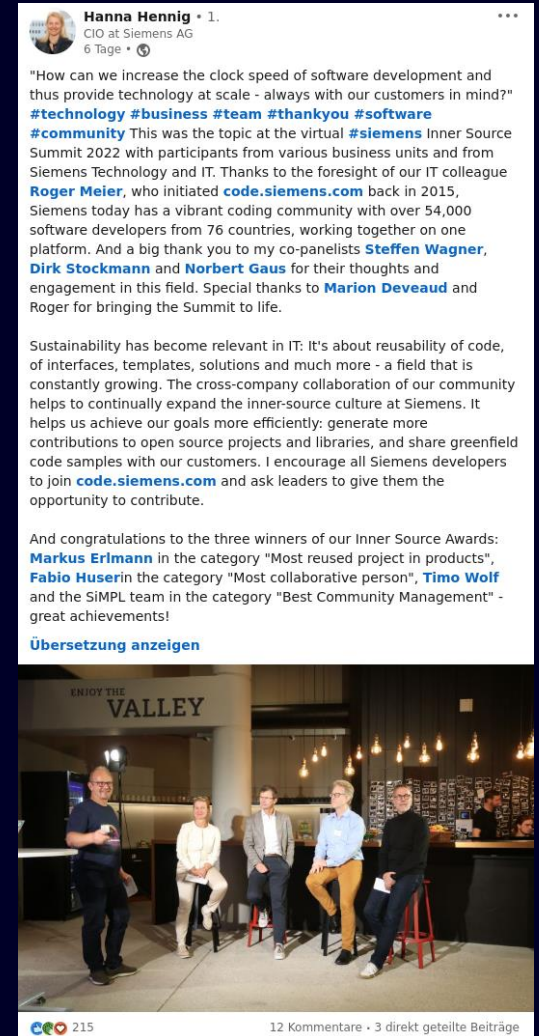


Peter Koerte,
Chief Technology
and Strategy Officer



Huge applause to the
`code.siemens.com`
community!
I can only encourage
everyone to join this
awesome network that
opens new opportunities for
all of us in terms of
innovation.

2022



Siemens Open Source activities


SIEMENS

HomeProjectsMembershipsEventsTalks

CommunitySiemensCoatyIndustrial EdgeiXMindsphere

Open Source by Siemens

You'll find a growing list of projects published by Siemens that you can explore below.

Head over to  github.com/siemens for a more complete list!

On top of our core GitHub organization, you'll find projects hosted at some of our product-specific organizations (for example github.com/mindsphere and github.com/industrial-edge) and at gitlab.com/siemens.

SIEMENS


HomeProjectsMembershipsEventsTalksGitHubGitLab

Search

Organization Memberships


Siemens actively supports and contributes to organizations in the Open Source Community.

Most notably, Siemens is a [founding member](#) of the Civil Infrastructure Platform, a Linux Foundation initiative.



Civil Infrastructure Platform

Platinum Member



Linux Foundation

Silver Member

Open Source event



CO-CREATED



Roger Meier: & 7 others in Developers

Open Source @ Siemens
2022 →

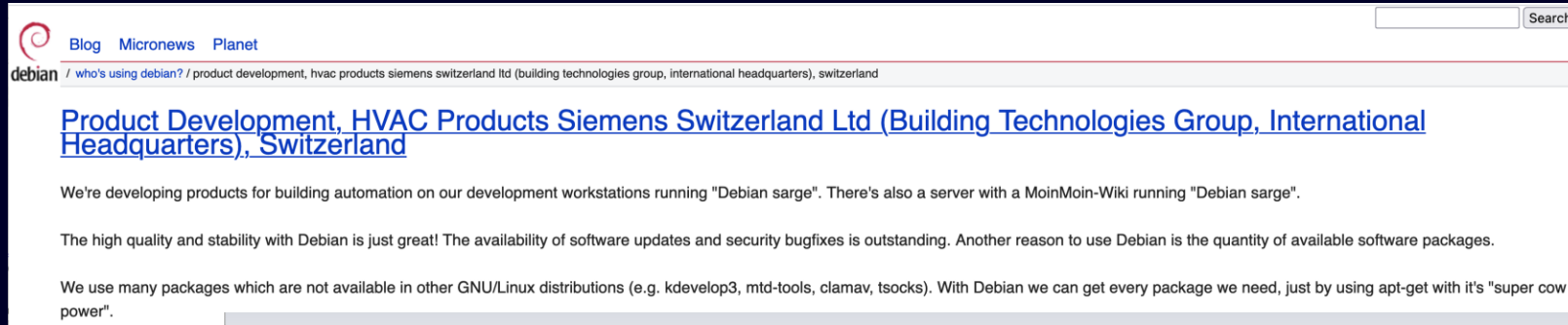


30

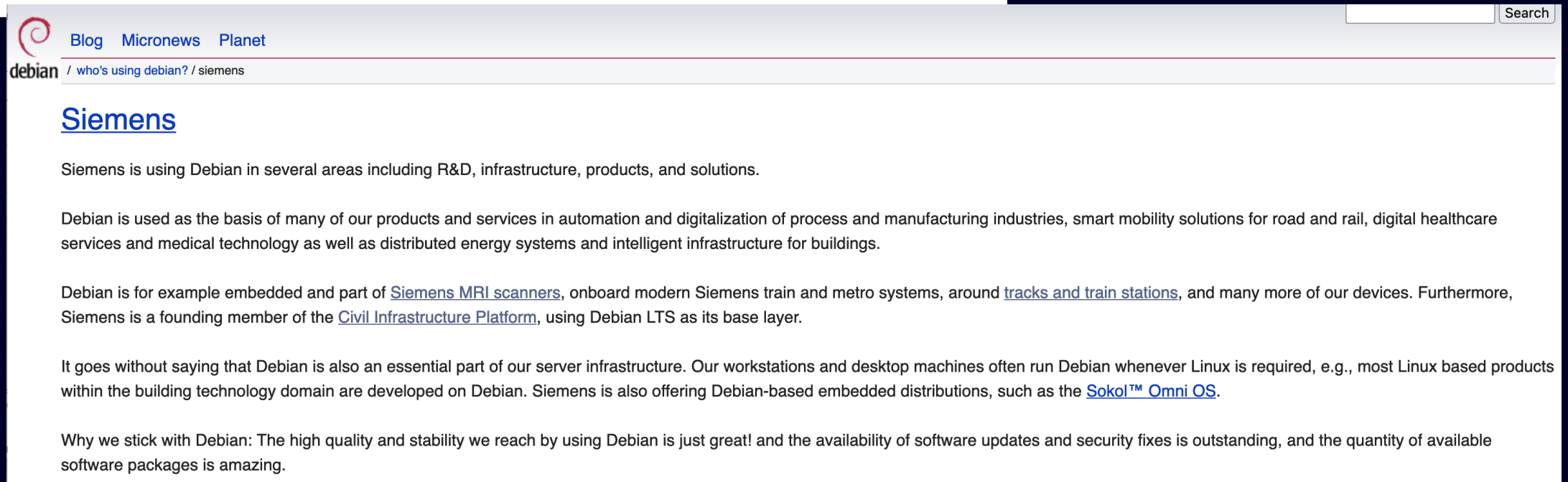


<https://opensource.siemens.com/events/2023/#call-for-speakers>

Siemens ♥ Debian



The screenshot shows a Debian blog post. The header includes the Debian logo, navigation links for 'Blog', 'Micronews', and 'Planet', and a search bar. The breadcrumb trail is '/ who's using debian? / product development, hvac products siemens switzerland ltd (building technologies group, international headquarters), switzerland'. The title of the post is 'Product Development, HVAC Products Siemens Switzerland Ltd (Building Technologies Group, International Headquarters), Switzerland'. The main text begins with 'We're developing products for building automation on our development workstations running "Debian sarge". There's also a server with a MoinMoin-Wiki running "Debian sarge".' It continues with 'The high quality and stability with Debian is just great! The availability of software updates and security bugfixes is outstanding. Another reason to use Debian is the quantity of available software packages.' and ends with 'We use many packages which are not available in other GNU/Linux distributions (e.g. kdevelop3, mtd-tools, clamav, tsocks). With Debian we can get every package we need, just by using apt-get with it's "super cow power".'



The screenshot shows a Debian blog post titled 'Siemens'. The header includes the Debian logo, navigation links for 'Blog', 'Micronews', and 'Planet', and a search bar. The breadcrumb trail is '/ who's using debian? / siemens'. The title of the post is 'Siemens'. The main text begins with 'Siemens is using Debian in several areas including R&D, infrastructure, products, and solutions.' It continues with 'Debian is used as the basis of many of our products and services in automation and digitalization of process and manufacturing industries, smart mobility solutions for road and rail, digital healthcare services and medical technology as well as distributed energy systems and intelligent infrastructure for buildings.' It then states 'Debian is for example embedded and part of [Siemens MRI scanners](#), onboard modern Siemens train and metro systems, around [tracks and train stations](#), and many more of our devices. Furthermore, Siemens is a founding member of the [Civil Infrastructure Platform](#), using Debian LTS as its base layer.' The text goes on to say 'It goes without saying that Debian is also an essential part of our server infrastructure. Our workstations and desktop machines often run Debian whenever Linux is required, e.g., most Linux based products within the building technology domain are developed on Debian. Siemens is also offering Debian-based embedded distributions, such as the [Sokol™ Omni OS](#).' The post concludes with 'Why we stick with Debian: The high quality and stability we reach by using Debian is just great! and the availability of software updates and security fixes is outstanding, and the quantity of available software packages is amazing.'

Growing number of upstream contributions: e.g., SIMATIC drivers within Linux Kernel

phoronix

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Ad


Quad Core 4K mini PC

armdesigner.com

Visit Site >


Siemens Working To Upstream More Linux Drivers For Their Industrial PCs

Written by Michael Larabel in Hardware on 16 March 2021 at 06:18 AM EDT. 6 Comments



Siemens has recently been engaging directly with the upstream Linux kernel developers in aiming to mainline various drivers for benefiting their industrial PC platforms.

For Siemens industrial PCs like the SIMATIC IPC line-up, the German industrial giant is looking to begin upstreaming more of their drivers. The initial area includes watchdog and LED support for these x86-based industrial PCs while more platform drivers and expanded device support is expected to come with time. They do have more code internally left to be sanitized and published around hardware monitoring and other features.



The targeted devices by the initial Linux patches include the SIMATIC IPC127E / IPC227D / IPC227E / IPC277E / IPC427D / IPC427E / IPC447E systems that range from mini IoT computers to wall computers used for various industrial applications.

Debian kernel team

linux

Merge requests

!472

Open

Created 6 days ago by

 Henning Schild

[x86]: Enable SIMATIC_IPC wdt and leds as module



index : kernel/git/torvalds/linux.git

Linux kernel source tree

master switch


Linus Torvalds

aboutsummaryrefslogtreecommitdiffstats

log msgsimaticsearch

Age	Commit message (Expand)	Author	Files	Lines
2021-12-23	platform/x86: pmc_atom: improve critclk_systems matching for Siemens PCs	Henning Schild	1	-21/+33
2021-12-23	watchdog: simatic-ipc-wdt: add new driver for Siemens Industrial PCs	Henning Schild	3	-0/+240
2021-12-23	leds: simatic-ipc-leds: add new driver for Siemens Industrial PCs	Henning Schild	5	-0/+221
2021-12-23	platform/x86: simatic-ipc: add main driver for Siemens devices	Henning Schild	5	-0/+292
2021-07-01	igc: Fix use-after-free error during reset	Vinicius Costa Gomes	1	-0/+2
2021-04-26	Merge tag 'arm-dt-5.13' of git://git.kernel.org/pub/scm/linux/kernel/git/soc/soc	Linus Torvalds	513	-3328/+26470
2021-04-07	Merge tag 'ti-k3-dt-for-v5.13' of git://git.kernel.org/pub/scm/linux/kernel/g...	Arnd Bergmann	23	-11/+3501
2021-03-11	arm64: dts: ti: Add support for Siemens IOT2050 boards	Jan Kiszka	4	-0/+778
2019-09-24	Merge tag 'platform-drivers-x86-v5.4-2' of git://git.infradead.org/linux-plat...	Linus Torvalds	7	-16/+222
2019-09-20	platform/x86: pmc_atom: Add Siemens SIMATIC IPC277E to critclk_systems DMI table	Srikanth Krishnakar	1	-0/+7
2019-09-07	platform/x86: pmc_atom: Add Siemens SIMATIC IPC227E to critclk_systems DMI table	Jan Kiszka	1	-0/+7
2019-05-14	mfd: intel_quark_i2c_gpio: Adjust IOT2000 matching	Su Bao Cheng	1	-10/+0
2019-04-25	serial: 8250_exar: Adjust IOT2000 matching	Su Bao Cheng	1	-2/+5
2019-04-18	stmmac: pci: Adjust IOT2000 matching	Su Bao Cheng	1	-2/+6
2017-07-07	Merge (most of) tag 'mfd-next-4.13' of git://git.kernel.org/pub/scm/linux/ker...	Linus Torvalds	37	-183/+985
2017-07-06	mfd: intel_quark_i2c_gpio: Add support for SIMATIC IOT2000 platform	Jan Kiszka	1	-0/+16
2017-07-03	gpio-exar/8250-exar: Make set of exported GPIOs configurable	Jan Kiszka	2	-26/+45
2017-05-21	iiio: adc: Add support for TI ADC108S102 and ADC128S102	Jan Kiszka	4	-0/+379
2017-05-02	Merge git://git.kernel.org/pub/scm/linux/kernel/git/davem/net-next	Linus Torvalds	1690	-45253/+107963
2017-05-02	stmmac: Add support for SIMATIC IOT2000 platform	Jan Kiszka	1	-1/+25

Developers as customers



Industrial Edge

87 followers

<https://siemens.com/industrial-edge>

[industrialedge.industry@siemens.c...](mailto:industrialedge.industry@siemens.com)

Verified

Overview

Repositories50

Projects

Packages

People5

README.md

Welcome to Industrial Edge Open Source Projects!

Industrial Edge is the open Industrial Edge Computing platform from Siemens and part of Siemens' comprehensive Industrial IoT offering. Click on the badges below to find more Siemens [open source projects!](#)

github

siemens

github

mindsphere

github

mendix

github

iot2050

SIEMENS

Siemens Xcelerator Marketplace

Topics

Vertical Markets

Community

Partners

Developers

Home

>

Developers

Welcome

Developers!

We believe digitalization is driven by developers, so we are opening Siemens Xcelerator for co-creation. Here you can build new digital solutions or enhance your existing applications with access to our APIs.

MindSphere Open Source Tools and Libraries

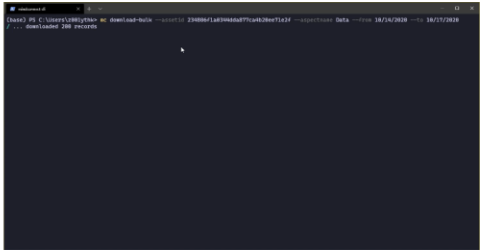
MindSphere Open Source Tools and Libraries are contributions from the MindSphere community. These are demo applications, libraries and SDKs and useful connectivity tools which are maintained and released as open source software. The source code for all libraries is available on [Github](#) and the packages can be downloaded via common package management tools.

Featured: MindSphere CLI

The [MindSphere CLI](#) is a powerful tool for MindSphere developers and administrators as it gives you scriptable access to common tasks in MindSphere.

It is packaged as part of [@mindconnect/mindconnect-nodejs](#) library. You can install it from [npm](#) or download binaries from the links below.

```
npm install -g @mindconnect/mindconnect-nodejs
```

[Linux v3.20.0](#)[macOS v3.20.0](#)[Windows v3.20.0](#)

Investments through Next47


Next47


TeamPortfolio

Portfolio


Next47 works with start-ups who are using deep technologies such as artificial intelligence, augmented and virtual reality, cybersecurity, autonomous transportation, IoT, robotics, advanced manufacturing, AI-powered business applications, and automation technologies to solve industry’s most difficult and fundamental challenges.




 Search or jump to... Pull requests Issues Marketplace Explore



Apollo GraphQL
A community building flexible open source tools for GraphQL.
336 followers San Francisco, CA <https://www.apollographql.com> @apollographql Verified

 Search or jump to... Pull requests Issues Marketplace Explore



Logz.io
Logz.io combines open source observability (logging, metrics, tracing) and Cloud SIEM into a scalable SaaS solution
<http://logz.io> info@logz.io

Summary

Open Source and Inner Source
is collaborative software engineering culture.

Culture is people business!

Start with experienced Open Source developers, step-by-step,
treat people nicely, be authentic and walk the talk!

Nobody is perfect, just mention e.g., "*this is a prototype*", this works
on Open Source projects as well!

Questions?

Contact



Roger Meier
Principal Key Expert
Service Owner code.siemens.com
r.meier@siemens.com

<https://opensource.siemens.com/>