

# 오픈소스, New Normal 시대 소프트웨어 혁신 경쟁력

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- 1. Open Source, it is new?**
- 2. Why Open Source**
- 3. What Samsung is doing**
- 4. Concluding Remarks**



① Open Source, It's new ?



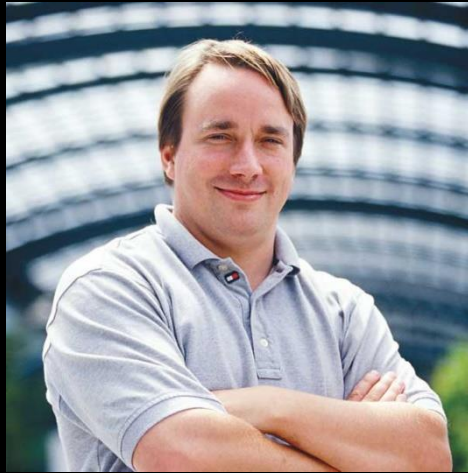
# Open Source Definition

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(Open Source Initiative – <http://opensource.org> )

01. Free Redistribution
02. Source Code
03. Derived Works
04. Integrity of The Author's Source Code
05. No Discrimination Against Persons or Groups
06. No Discrimination Against Fields of Endeavor
07. Distribution of License
08. License Must Not Be Specific to a Product
09. License Must Not Restrict Other Software
10. License Must Be Technology-Neutral

Development based on the sharing and collaborative improvement of software source code has a history essentially as long as software development itself. In the late 1990s, interest and participation in this phenomenon increased markedly with mainstream recognition of Linux in publications like Forbes and the release of the Netscape browser's source code.



*Since 1991*



is better than ?



# Open Source is not free...



## 5 Ways to make money with open source

- Sell Support Contracts
- Sell Binaries
- Sell Documentation
- Sell Value-Added Enhancement
- Sell Your Expertise as a Consultant



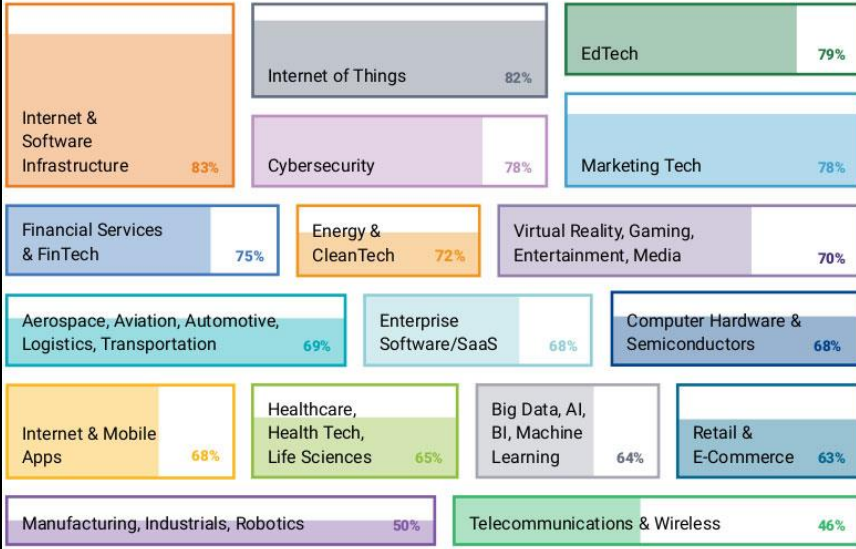
# ② Why Open Source





## Industries represented in the 2020 OSSRA report

Percentage reflects amount of open source in codebases by industry



[Ref: Synopsys 2020 Open Source Security and Risk Analysis Report]

## Despite the pandemic and economic downturn, skills in open source continue to be in high demand among employers



of hiring managers say **hiring open source talent is a priority** for 2020, and they are more likely than ever to look for open source professionals who hold certifications.



of hiring managers report **difficulty finding sufficient talent with open source skills**, up from 87% in 2018.



of hiring managers **plan to increase their hiring of open source professionals** in the next six months compared to the last six months.



of employers report that **training existing employees to gain the necessary skills** is now the top tactic utilized in 2020.



of hiring managers stated that **hiring certified professionals is a priority**, up significantly from 47% in 2018.

[Ref: Linux Foundation 2020 Open Source Job Report]

@FUTUREOFSS  
#FUTUREOSS



# OPEN SOURCE BUSINESS IMPACT IS CLEAR

90%

of respondents say Open Source Improves:



[Ref.: 2018 Future of Open Source Survey Result]



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Open Source  
Technology Center



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Open Source  
Program Office



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Open Technology  
Center



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@fbOpenSource



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Qualcomm  
Innovation Center



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Open Source Group

// TODO

**TALK OPENLY**  
**DEVELOP OPENLY**

For companies committed to open source.





Linux is a cancer that attaches itself in an intellectual property sense to everything it touches.

(Steve Ballmer)



*Culture changed ?*





## Linux Foundation Membership

As open source adoption grows, commerce and society come to depend on that code. The future of critical technologies such as Linux, Node.js, Hyperledger, and others can't be left to chance. They need a neutral, independent organization to manage the infrastructure and sustain their communities over the long term.

More than half of all Global 2000 software and telecom companies are members of the Linux Foundation and our projects. They know their contributions not only help accelerate their own technology and innovation, they're critical to developing billion-dollar markets and ensuring that modern society continues to run on open source.

Move markets and help support critical code. Join more than 1,000 supporters of the Linux Foundation and our projects in building and sustaining open source technologies.



[VIEW ALL LINUX FOUNDATION MEMBERS](#)

화웨이 CEO, 美 제재 극복 위해 '소프트웨어 집중' - '21.5.26



OPEN SOURCE  
LEADERSHIP SUMMIT

# Keynote: The Power of Open Source in a 5G World

Mazin Gilbert, Vice President of Advanced Technology and Systems, AT&T



*Another open sources in 5G against 4G ?*

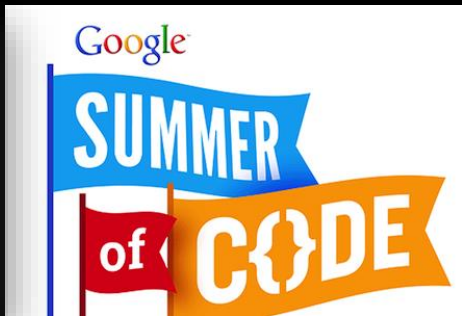
O'REILLY®

OSCON

We hire.

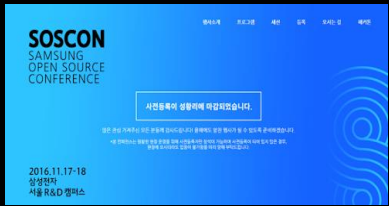






삼성 S/W 개발자 컨퍼런스 '21.11.18

[Video] <https://www.youtube.com/watch?v=BS4kTgaiyDQ&t=189s>



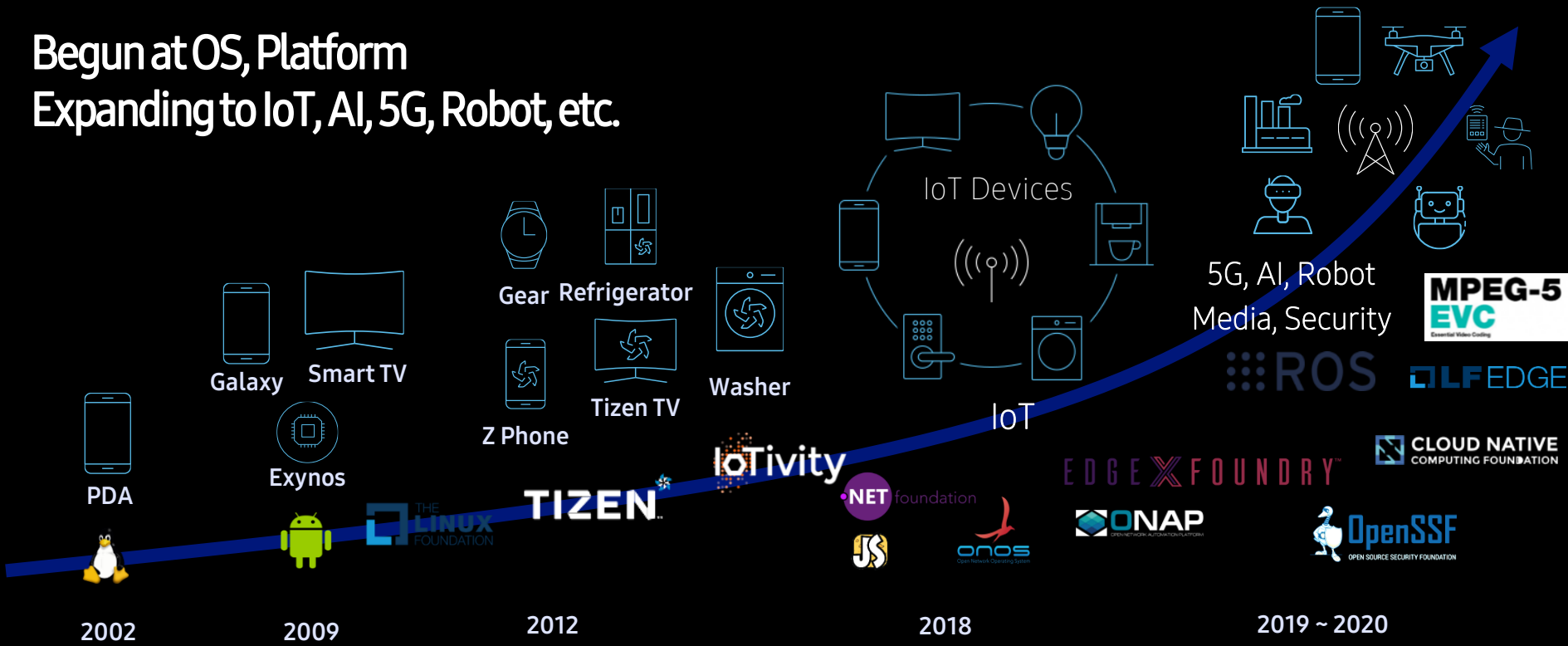
# ③ What Samsung is doing

Our home at <https://opensource.samsung.com>



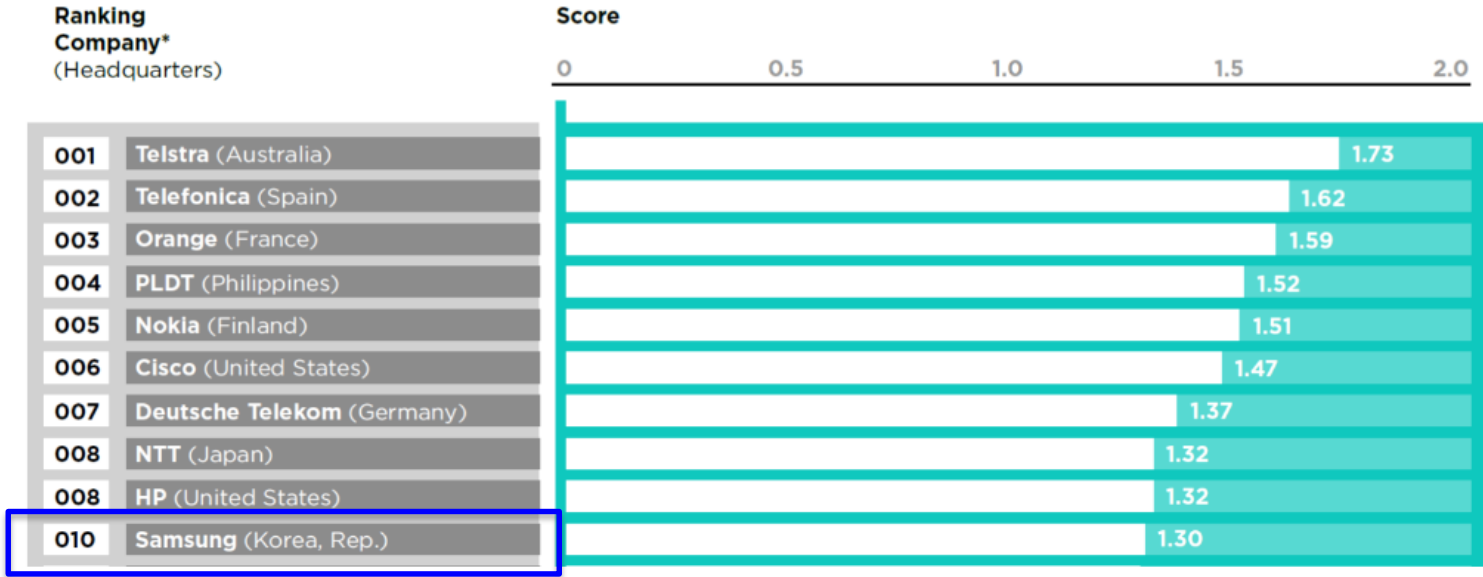
# Samsung Open Source History

Begun at OS, Platform  
Expanding to IoT, AI, 5G, Robot, etc.



# Open Source is Innovation

## Digital Inclusion Benchmark 2020 Ranking and score



[참조] <https://www.worldbenchmarkingalliance.org/news/dib-press-release-2020/>

## Summary

Samsung has the third-highest score in the benchmark among Asian companies and fourth among hardware companies. It is a leader in innovation, with strong support for open source and standards, and is one of the few companies that has published ethical principles for artificial intelligence (AI). The company also does well in digital skills, with initiatives at all training levels. In the use measurement area, Samsung is one of the highest ranked companies for child online protection. It stands out in the access area for the number of initiatives supporting digital opportunities for women and girls, leadership in supporting people with disabilities, and disclosure of its

RANKING POSITION

#10 /100

TOTAL SCORE


1.30 /2

MEASUREMENT AREA

SCORE (0-2)

RANK (0-100)


Access

 1.09 / 2.00

#17

>


Skills

 1.19 / 2.00

#13

>

Use

 1.09 / 2.00

#21

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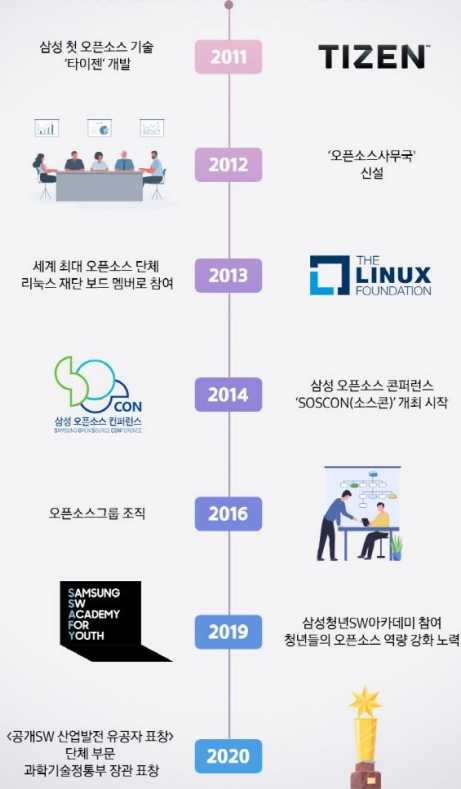
Innovation

 1.81 / 2.00

#4

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## 삼성전자 오픈소스의 역사



“소프트웨어도 공유와 협력의 시대”  
오픈소스를 이끄는 사람들의 이야기  
2020/12/04

# Key Value for Future Techs in Samsung

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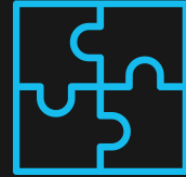
## 1. OPENNESS

- Source Code and Project Open
- Communities Participation



## 2. Collaboration

- Global Open Source Leading
- Korean Association, Dev Program

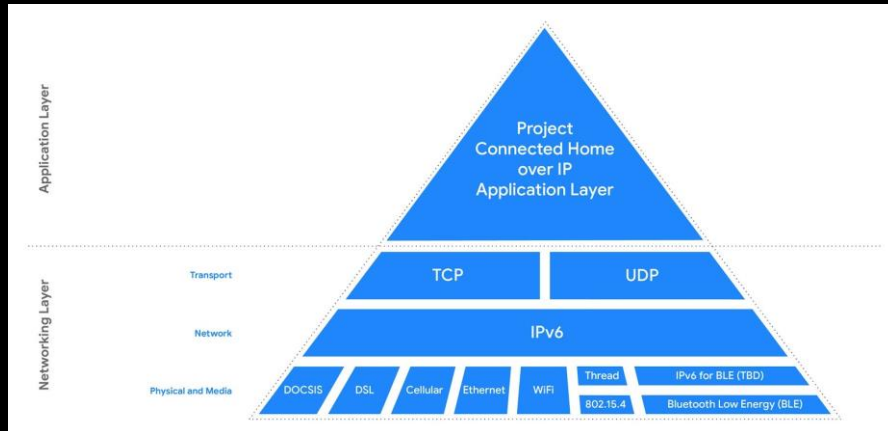


## 3. Development Culture

- Internal Infrastructure
- Inner Source Program

# ① Openness – IoT

- CHIP (Connected Home over IP) is a new WG within the ZigBee Alliance.
- CHIP plans to develop and promote the adoption of a new, royalty-free connectivity standard to increase compatibility among smart home products, with security as a fundamental design tenet.



Google I/O 2021

**Open Source** at <https://github.com/project-chip/connectedhomeip#connected-home-over-ip>



# ① Openness – 차세대 통신

## 네트워크 운영기술인 ONAP 참여를 시작으로 (19년 제조사 코드 기여율 1위), 5G Beyond/6G 서비스를 위한 Open RAN 오픈소스 기술로 활동 확대

- 차세대 통신 분야 대표 오픈소스인 LF Networking 보드 멤버 참여
- LF Networking 백서, 삼성전자 6G 기술 백서 발행



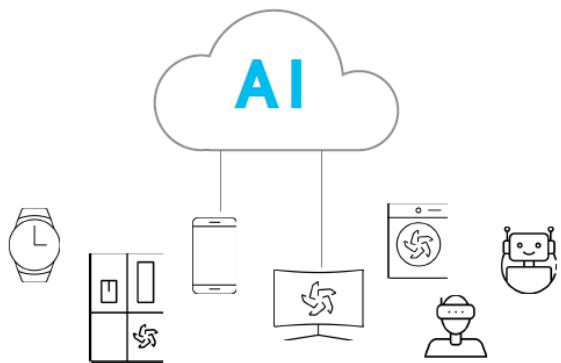
\* (수치) : 통신 장비 제조사 중 삼성 Commit 순위 ('20년)    LF Networking 오픈소스 주요 참여 업체    LF Networking 백서 (4월)    삼성전자 6G 백서 (7월)

\* ONAP : Open Network Automation Platform

# ① Openness – AI

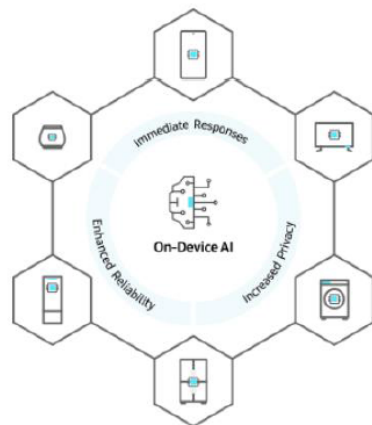
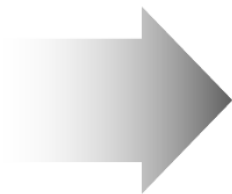
## Cloud 기반 AI 에서 안전하고 빠른 On-Device AI 로 연구 확장

- Neural Network 스트리밍 기술 LF AI 프로젝트로 채택 ('20.3, NNStreamer)
- LF EDGE 오픈소스 보드 멤버 참여



[Cloud와 연결하여 AI 기능 제공]

- 강화된 Privacy
- 빠른 응답 시간
- 향상된 신뢰도



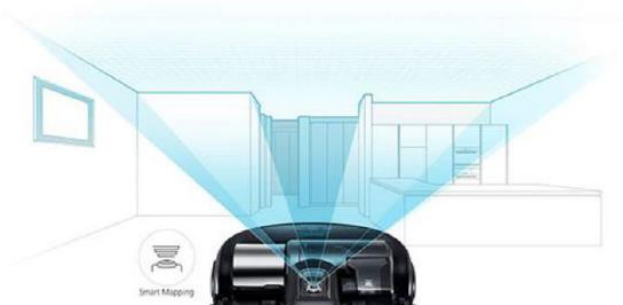
[Device의 AI 능력 향상]

LF AI  
LF EDGE

# ① Openness – Robot

## 로봇 분야 대표 오픈소스에서의 당사 리더십 강화 및 국제 인증 확보

- ROS (Robot Operating System) Navigation 1.0 주도 ('19) → 해당 WG 의장 선임 ('20.6)
- GEMS Hip: 안정성을 위한 국제 표준인 ISO 13482 획득 ('20.9)



[로봇 주행 분야 오픈소스 주도]



[GEMS Hip]



[ISO 인증, '20.9]

\* GEMS : Gait Enhancing and Motivation System

※ ISO 13482 : Robots and robotic devices - Safety requirements for personal care robots

# ① Openness – Media & Security

## 고효율 미디어 전송 기술과 신뢰할 수 있는 서비스 환경 구축 선도

- 차세대 오픈 코덱 프로젝트 AOM 참여 ('19) → MPEG-5 EVC 압축 기술 코드 공개 ('20.9)
- 안전한 서비스 환경 구축을 위해 OpenSSF 참여 및 글로벌 기업들과 기술협력 ('20.8)



**MPEG-5**  
**EVC**  
Essential Video Coding



8K 대화면 및 온라인 영상 대화 환경에 적합한 영상 압축 기술로  
License Free Codec Baseline Profile 코드 공개

**SAMSUNG**

Google

Qualcomm



\* AOM : Alliance for Open Media



**OpenSSF**  
OPEN SOURCE SECURITY FOUNDATION



안전한 서비스 보장 기술과  
보안 취약점 개선 방안 공동 대응

Google

Microsoft

IBM

intel

GitHub

\* OpenSSF: Open Source Security Foundation

# ① Openness – Communities Participation

## Samsung Open Source Partnership

Open Source is a kind of the organic material which is based on the trusts among User, Developer, Community and Business Units. Hence the communities are one of the major elements in Open Source.



### KERAS KOREA

[VISIT SITE](#)

케라스 코리아는 전고 빠르게 달려남에 임응할 수 있는 오픈소스 달려남 라이브러리 '케라스(Keras)'를 기반 으로 소통하는 커뮤니티입니다.



### 데이터야놀자

[VISIT SITE](#)

데이터엔지니어는 데이터를 다루는 모든 사람들의 축제입니다. 오픈소스와 커뮤니티 활성은 바탕으로 하며, 구성원들 모두의 자발적인 참여로 운영되는 행사입니다.



### ROS KOREA (OROCA)

[VISIT SITE](#)

국내 최대 오픈소스 로봇 관련 커뮤니티로, 로봇 제작 강좌 운영 및 기술 교류를 위해 온오프라인 모임은 진행 하고 있고 1년 3회 정기 세미나를 개최합니다. 인베디드 제품 개발부터 유머, 이드 로봇 개발 및 인공지능 적용 주황 관련 다양한 기술 보급에 주력하고 있습니다.



### AI Robotics KR

[VISIT SITE](#)

인공지능 로봇이 가져올 미래에 관심을 가진 개발자, 연구자 분들을 위한 커뮤니티입니다. 2018년도 웨어러블 및 인공지능 관련 3회 세미나의 개최에 활동 중에 있으며, 인공지능, 로봇, 드론 관련 온/오프라인 세미나 및 프로젝트를 운영중에 있습니다.



### 위민 후 코드 서울 (Women Who Code Seoul)

[VISIT SITE](#)

2011년 설립된 위민 후 코드는 전 세계 20개국 60개 도시에서 13만 7천여명의 여성 엔지니어들이 활동하고 있는 비영리 단체입니다. 현재 20개국 60개 도시에 위민 후 코드 커뮤니티가 형성되어 있으며 연간 1천여명의 여성 엔지니어, 주니어 엔지니어를 위한 코드 리부, 리더십 트레이닝, 구직 및 구인 연계, 실용에 도움이 되는 코드 토크와 워크숍을 제공합니다. 2018년 1월 3월에 시작된 위민 후 코드 서울은 대한민국 IT 업계의 여성들의 활약을 조명하고 네트워킹을 통해 함께 성장할 수 있도록 기회를 만들고자 시작되었습니다.

Continuously expanding our collaboration with open communities

Please join us at:

<https://opensource.samsung.com/community/partnership>

## ② Collaboration – Foundation & Affiliation

A Member of BoD (Board of Director) with Global-Leading Companies

- Focused Area : IoT, Media, 5G Networking, Security, Robot, AI, etc



and more...

## ② Collaboration – Developer Program

### SOS Companions

[VISIT SITE](#)

Passion, Creativity and Collaboration are our Key Words. SOS Companions is the most active influencers for Open Source.

### SOS Mine

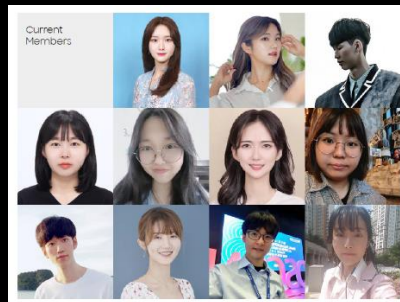
[VISIT SITE](#)

The SOS Mine program is a special activity to make better technological innovation with open source experts. Show your ability up.

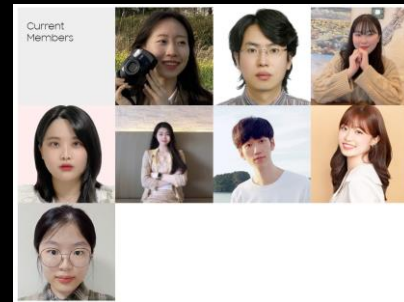
### SOS Masters

[VISIT SITE](#)

SOS Masters Program gives meaningful qualifications for passionate applicants who aim to be an open source developer. Start your open source activities now.



1기 Companion  
2020년



2기 Companion  
2021년

“오픈소스로 만나는 삼성전자 기술과 사람들”

# ④ Concluding Remarks





# 내 이름 석자가 브랜드인 시대

Open Source Leader





[테크톡] K-호미로 배우는 오픈소스! 공유와 협력 이야기

<https://www.youtube.com/watch?v=VnD0e1dJ-T0&t=256s>

