

AMATEUR RADIO DIGITAL COMMUNICATIONS

GARS TechFest

January 13, 2024 - Lawrenceville, GA

Rebecca Key - KO4KVG, Communications Manager

What is ARDC?

ARDC is a private 501(c)(3) non-profit foundation, incorporated in California, that distributes funds in the form of grants and scholarships each year.

ARDC also develops and manages 44Net community resources (aka AMPRnet) which owns 12 million IPv4 routable IP addresses available for amateur radio projects.

Mission

To support, promote, and enhance digital communication and broader communication science and technology, to promote Amateur Radio, scientific research, experimentation, education, development, open access, and innovation in information and communication technology.

Values

Our staff, contractors, and volunteers strive to uphold the following values:

- Curiosity
- Experimentalism
- Respect
- Accountability
- Openness & Transparency
- Inclusiveness
- Fairness
- Generosity & Gratitude

www.ardc.net/about/values/



AMATEUR RADIO DIGITAL COMMUNICATIONS

Background / History

1981	Hank Magnuski KA6M and 44Net / AMPRNet
2011	Formation of ARDC to be the trustee of the 44Net address space by Brian Kantor WB6CYT
2019	Sale of IPv4 addresses & creation of endowment to fund ARDC operations and grants
2019	Sudden passing of WB6CYT
2020	Building a staff to manage operations including grants and technology

The ARDC Staff



Rebecca Key KO4KVG
Communications Manager

Jon Kemper KA6NVY
Technology Director

Rosy Schechter KJ7RYV
Executive Director.

Chelsea Párraga KF0FVJ
Grants Manager

John Hays K7VE
Outreach Manager

Merideth Stroh KK7BKI
Operations Manager

Resources

- 12 million legacy IPv4 routable Internet addresses which are allocated to licensed amateurs at no cost for non-profit and open access amateur radio projects
- An endowment providing a financial distribution each year to non-profit and open access/source programs and projects via grants for:
 - Growth of Amateur Radio
 - Education & Scholarships
 - Research and Development.

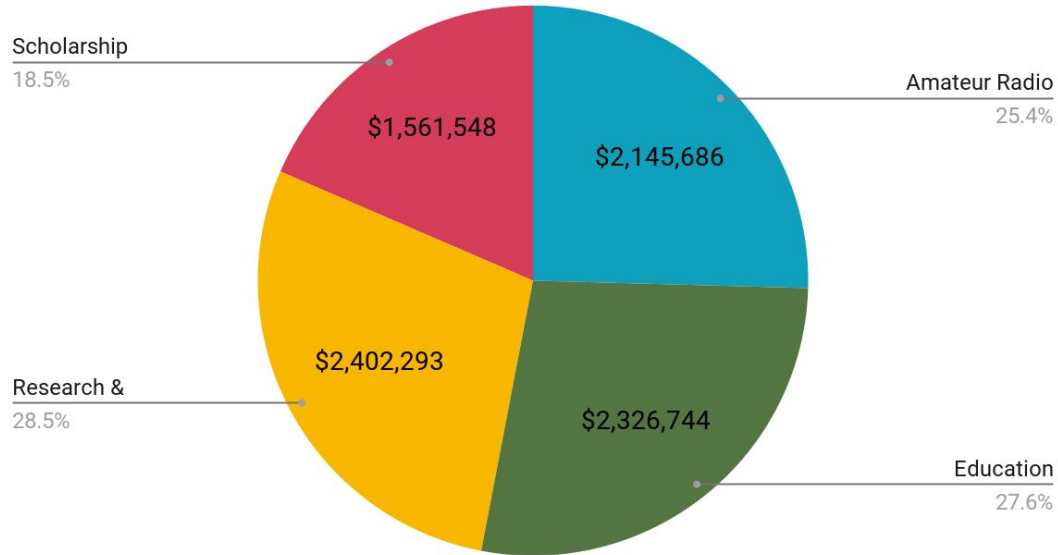
Grants



AMATEUR RADIO DIGITAL COMMUNICATIONS

2022 Grants

2022 ARDC Grants By Category - Dollars



Number of grants made in 2022:

101 Grants

Dollars distributed in 2022:

~\$8M*

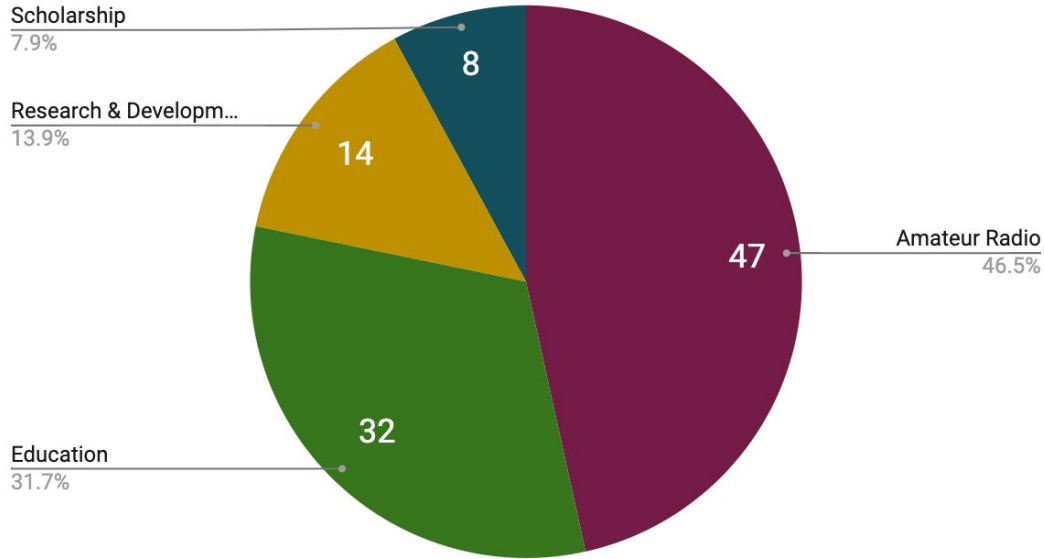
Number of people directly impacted:

~14,000 People

**More exact totals will be provided in 2022 audited financials*

2022 Grants by Category

2022 ARDC Grants By Category - Number of Projects



- Compared to 2021, R&D grew as a category from 14% to 28% (in dollars)
- We had:
 - 8 scholarship grants
 - 14 R&D grants
 - 32 education grants
 - 47 amateur radio grants

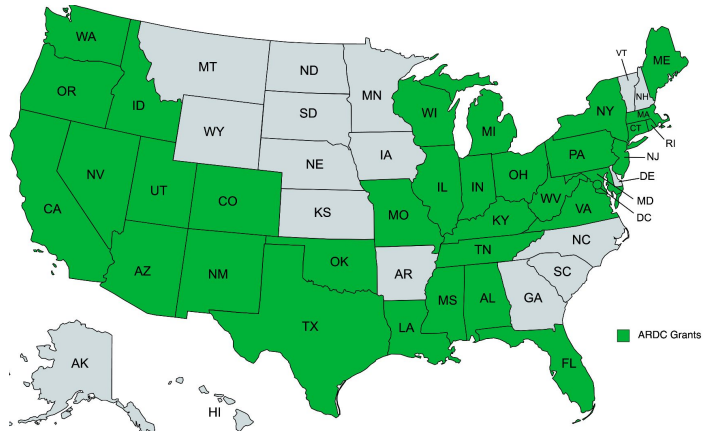


International Reach

2020: 9% international projects (2)

2021: 10% international projects (6)

2022: 13% international projects (13)





Grants Update

All-Time Number of grants made:

187 Grants

All-Time Dollars distributed:

~\$20,900,000

Number of people directly impacted:

71,193 People

Pictured: Left are students at Norwich Free Academy, Right are Hampton University Scholarship recipients



AMATEUR RADIO DIGITAL COMMUNICATIONS



Applying for a Grant

Apply anytime!

The earlier in the cycle the better

Upcoming 2024 review dates:

- February 1
- April 1
- July 1
- September 1 + Scholarship Applications



APPLY

Information: ardc.net/apply/

Apply: grants.ardc.net

Grantee Requirements

ARDC makes grants to **nonprofit organizations**, which fall into the following categories:

- **US IRS 501(c)(3) Non-Profit Public Charities** or their International Equivalents
- **Non-Profit Educational Institutions** (US and International)
- **Government projects** that align with our mission
- Groups and individuals sponsored by an entity meeting the above requirements. This is known as **fiscal sponsorship**.

Applying for a Grant – The Process

1. **Prepare** your proposal

- Description
- Goals
- Project Outline
- Budget

2. **Submit** your application online at: grants.ardc.net

3. **Application reviews**

- Staff – eligibility check (don't forget EIN!)
- Grants Advisory Committee (GAC) – application review
- Board of Directors – funding determination



Applying for a Grant – The Process

Important notes!

- After the application deadline, it can take 60–120 days for funding decision.
- International Funding can take extra time.
- If ARDC needs more information, we will contact you.

Applying for a Grant – Talk to Us!



- Visit our booth here at **GARS TechFest**
- Members of our staff are here to hear from you and to answer your questions
- Email questions about grants to giving@ardc.net

44Net



AMATEUR RADIO DIGITAL COMMUNICATIONS

What is 44Net / AMPRNet?



- a. Facebook for hams?
- b. An automated defense network run by Cyberdyne Systems Corp?
- c. An autopatch network in the UK?
- d. Something else?

44Net Definitions

- AMPRNet stands for “Amateur Packet Radio Network”
- 44Net refers to a block of ~12 million publicly routable IPv4 addresses in the range 44.0.0.0 through 44.191.255.255 (44/9 & 44.128/10)
- Addresses are free to use and mainly issued to hams for non-commercial use
- ARDC retains ownership of IPs and coordinates addresses and related matters
- The “evolution of 44Net” is an open access community resource that helps AR operators, learners, and makers to democratize telecommunication technology
- 44Net is evolving beyond IP addresses and IP-IP mesh tunnels to include global Points-of-Presence (PoPs). ARDC is ASN# “AS56508”

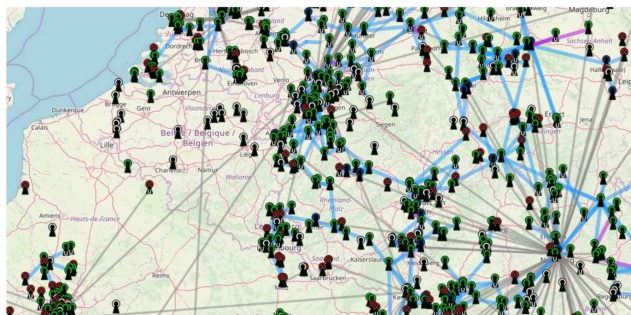
Ref: <https://en.wikipedia.org/wiki/AMPRNet>

44Net Use Cases

2022

THE COMMUNITY

*The Hamnet community consists of licensed amateur radio operators & clubs,
they are...very fast...spreading the network worldwide.*



<https://hamnet.eu/site/community.html>

- HAMNET (Highspeed Amateur Multimedia NETwork)
- IRLP (Internet Radio Linking Project)
- HAMWAN (IP-based digital network for amateur radio)
- EMCOMM
- Internet of Things (IoT)
- IP-IP Mesh
- Repeater Infrastructure
- SDR
- Email

The Garbandy Tower (372m)



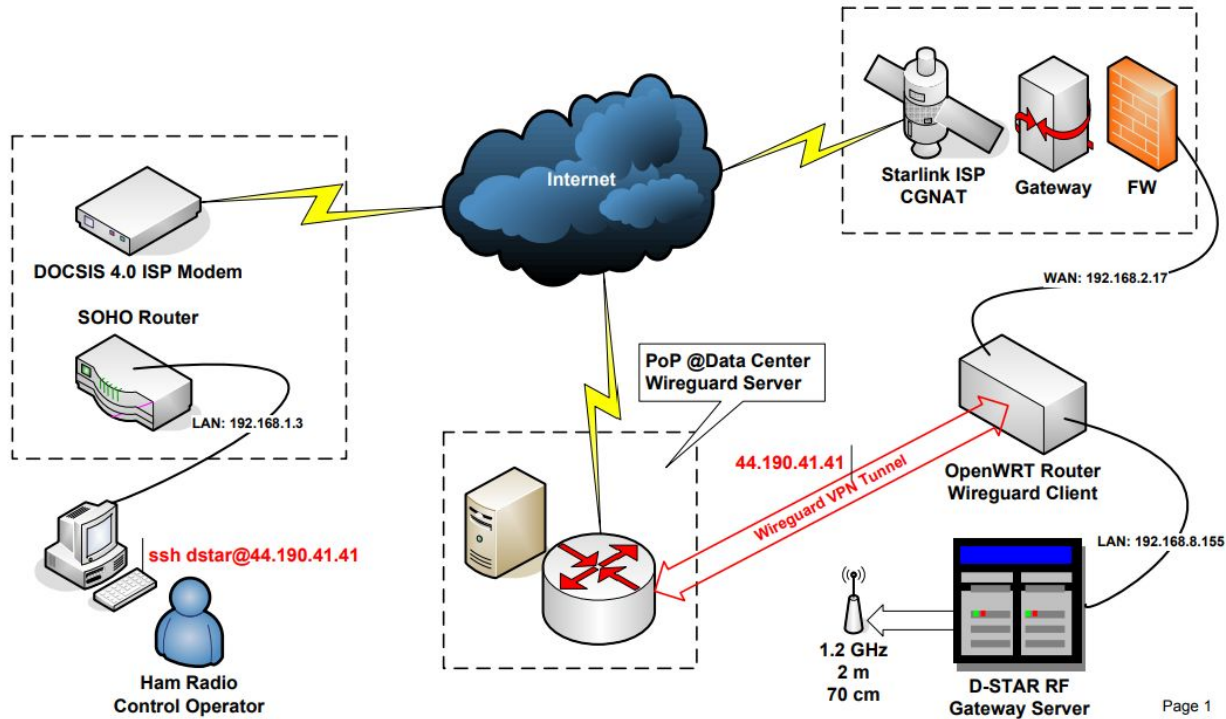
- Mounted on a 22-floor base
- located in the Netherlands
- houses 2m, 70cm, analog and DSTAR amateur radio equipment utilizing 44Net connectivity
- Includes IP Cameras using HAMNET

Photo courtesy Rob Janssen - PE1CHL

Technical Advisory Committee (TAC)

The TAC is a group of community volunteers that reviews and advises ARDC staff and board of directors on aspects of 44Net technology, architecture, and policy.

44Net VPN Router



2024 TAC Initiatives

1. Expansion of the 44Net Administrative Portal
2. Development of the 44Net PoP infrastructure for new use-cases
3. Creation of a community technical knowledge base

More Information

ardc.net

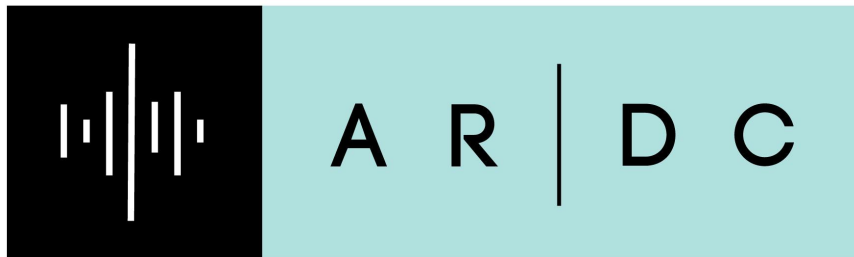
- Visit ardc.net
- Sign up for the [newsletter](#)
- Engage on [Groups.io](https://groups.io)
- Sign up for the [44Net Mailing List](#)
- Beta tester community volunteers
- Attend our community meetings
- Reach out at contact@ardc.net

44Net

- Portal: portal.ampr.org
- Wiki: wiki.ampr.org



Linktree



AMATEUR RADIO DIGITAL COMMUNICATIONS

Thank you!

Reach out any time! contact@ardc.net