OVERVIEW

Next generation digital television:
New pathways to grow service and revenues

PREPARING PUBLIC TELEVISION STATIONS FOR ATSC 3.0

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NEXT GENERATION TV: PUBLIC MEDIA IN AN ATSC 3.0 WORLD

In the second half of 2016, Public Media Company (PMC) brought together more than 60 public television leaders to discuss the potential of the new television broadcast standard called ATSC 3.0. We also led several briefings on the technology at industry meetings during the fall of 2016. Based on those meetings, it is clear that ATSC 3.0 offers public television stations significant opportunity to increase service and generate new revenue. Public stations want a better understanding of this new distribution platform. At the same time, their optimism about ATSC 3.0 is balanced with a healthy caution about the reality of new technology rollouts.

A central theme of our discussions was the promise of this new technology. The meetings also affirmed the importance of using ATSC 3.0 to build **station-focused** mission and revenue projects that can help stations extend and strengthen their local audiences and capacity.

To respond to the need for better understanding of ATSC 3.0 and its potential for public television, Public Media Company is launching a station-driven public television planning process for ATSC 3.0. We will assemble the best experts, organizations and companies working in ATSC 3.0. We will help stations identify and build business models that make sense for public television and build upon the new capabilities offered by ATSC 3.0. The heart of this planning process will be a working group of stations (the "Working Group") that will join us to explore, develop, and ultimately implement services built on ATSC 3.0 that fit the mission and business interests of public broadcasting.

WHY NOW?

First, the repack. The FCC has projected that well over 1,000 stations will be required to change their channel as part of the repack. These include many public television stations. Stations can choose to add ATSC 3.0 capability as part of their transmission equipment reconfiguration for the repack or add ATSC 3.0 capability at some later date. The incremental cost to add ATSC 3.0 capability during the repack above FCC reimbursement for the repack will be modest. The cost of doing so in the future, outside of the repack, will be significantly higher.

Second, the economics. Commercial television projects billions of dollars annually in increased revenue once ATSC 3.0 is deployed. Therefore, we expect the commercial television industry to move quickly to adopt ATSC 3.0. Some of these enhanced revenue models will be available to or adaptable for public television stations. We believe that there is a significant potential revenue upside for public television stations that move to ATSC 3.0.

Further reinforcing this economic potential is the structure of commercial television ownership. Many commercial television group owners own two or more stations in a market. In markets with these "duopolies," there is every advantage to moving to ATSC 3.0 quickly. An owner with two stations in a market, for example, can simulcast both stations' content on both of its transmitters, one in ATSC 3.0 and the other in ATSC 1.0. In this way, the owner would be able to begin exploiting the benefits of ATSC 3.0 immediately, while continuing to provide legacy ATSC 1.0 services. Given the number of markets with duopolies, we anticipate ATSC 3.0 broadcasts will light up in many locations around the country once this standard is approved by the FCC.

Third, the service potential. ATSC 3.0 provides significant opportunities for stations to increase their public service. These include relatively simple opportunities like better reception, more multicast channels and greatly improved accessibility for disabled viewers. Other opportunities are more complex and may take some time to develop, such as addressable content and second-screen interactive content.

Fourth, the technology. As we write this report, ATSC 3.0 is being deployed in South Korea. By the time the FCC approves ATSC 3.0 for use in the U.S. and the first stations begin to light up ATSC 3.0 signals, there will already be a base of consumer devices developed and refined in the South Korean market. We can therefore expect ATSC 3.0 as a technological platform to have been fully tested before it arrives in the U.S.

We therefore believe that **the time is now** for public media to begin to invest capital and management time in creating business and service models for ATSC 3.0.

WHAT IS ATSC 3.0?

For those who did not attend the Public Media Company-sponsored ATSC 3.0 meetings or are unaware of the significant potential of ATSC 3.0, here are the basics.

ATSC 3.0 is a transformative technology that moves broadcasting to an IP-based delivery system. Essentially, it converts your broadcast transmitter to a high-power IP data transmitter. The ATSC organization has produced a [video](#) that explains the basics of the system. In addition, our [recommended resource list](#) has more information about 3.0. [1].

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[1] See items 1 & 2 in the Further Reading section on page 16 for links to these materials.

The ATSC 3.0 platform has an impressive list of enhanced features that will benefit Public Television, including:

> **Enriched "traditional" television** such as easier over-the-air reception for many viewers using inexpensive indoor antennas, more multi-cast channels, more high-definition channels, enhanced high-definition channels, and extremely high-definition immersive audio.

> **Significantly enhanced emergency alerting.** Stations will be able to send alerts that "wake-up" ATSC 3.0 television sets even if they are turned off. Stations will be able to send rich media information such as weather and traffic maps, evacuation routes, photos and video clips to these televisions and to portable devices. Stations will be able to send different alerts to different geographic areas.

> **The ability to address specific content to individual homes or receivers.** The IP data files (including television content) that will be pushed through a station's ATSC 3.0 transmitter are inherently addressable. Stations can leverage this addressability to provide specific content to specific homes. Stations could use this capability to deliver educational content only to subscribing students, for example, or medical updates only to medical practitioners, or content relevant to a specific hobby only to subscribing hobbyists. This capability could result in a wide variety of new mission-driven services. Subscriptions could be free, "freemium," or paid, opening new potential revenue sources.

> **Interactive features** will provide new service and revenue opportunities. Since it uses a standard IP data format, files and content delivered by ATSC 3.0 will be interoperable with standard Internet Protocol files (like those that are delivered by Internet). In addition, features and services built into ATSC 3.0 can be customized using the HTML5 programming language. With these capabilities, content producers will be able to embed enhancements like games, surveys, "for more information" buttons, and "donate" buttons into television content.

> **Mobile delivery to portable devices.** Since ATSC 3.0 is an IP data system, files (including content) delivered by ATSC 3.0 can be distributed on Wi-Fi networks, making them viewable on devices like smartphones and tablets. In addition to making content more available in the home, this capability will enable content producers to create second-screen interactive content that is synchronized with primary channel content to augment the primary broadcast. Eventually, if ATSC 3.0 receivers are built into smartphones and tablets, these devices will be able to receive ATSC 3.0 signals directly without being connected to a Wi-Fi network.

> **Non-real-time content delivery.** Local storage will be included in many ATSC 3.0 receiving systems, so stations will be able to deliver content at any time to be stored locally and viewed when the consumer desires. Due to ATSC 3.0's HTML5 compatibility, stations will be able to develop a menu-driven user interface (think Netflix or Amazon Prime) for viewers to use in accessing this content and augmenting today's schedule-driven paradigm. We believe this holds potential for "long-tail"-type content and other forms of local content that is community service-driven (i.e. health and education, and civic information services).

> **Fee-for-service and leasing revenue**. Given that the IP data files pushed through a station's ATSC 3.0 transmitter are inherently addressable, stations will be able to generate revenue by leasing spectrum to others under the FCC's ancillary-supplementary rules. The one-to-many delivery paradigm of broadcast will be an important advantage for applications requiring software updates; data delivery to systems that are mobile (e.g cars); as well as control data to Internet-of-Things devices.

> **Significantly improved accessibility for viewers with disabilities.** ATSC 3.0 is capable of supporting many different language tracks; closed-captions in a variety of languages; and picture-in-picture sign language that can be enabled at the option of the viewer. ATSC 3.0 also offers independent control of foreground and background audio elements so that viewers who have difficulty hearing dialogue over background audio can turn down the background to improve their experience.

WHO NEEDS TO PAY ATTENTION?

It's important for all stations in the public television community to understand ATSC 3.0 and the significant implications of this new platform for both its mission-driven and revenue potential.

Whether you think your station will be an early adopter of the new opportunities presented by ATSC 3.0, or you plan to wait to make any investments in the new technology, your station will be impacted by ATSC 3.0. Ready or not, choices that you make now will impact your service model in the next three to five years – and well beyond.

THINGS TO THINK ABOUT

We encourage you to consider a few questions as you develop your plans:

> What are commercial broadcasters saying and doing[2]?

[2] See item 3 in the Further Reading section on page 16 for the link to a discussion amongst commercial broadcasters on the topic.

> What are fellow public television stations – those you trust and respect – doing? One reference: the PBS Engineering Technology Advisory Committee (ETAC) developed a position paper on ATSC 3.0.[3]

> What kinds of new opportunities might come about with ATSC 3.0?

> What kinds of new competition might arise as others adopt ATSC 3.0 even if you don't?

> What do your audiences and community members want and need and how can you use ATSC 3.0 to deliver on these expectations?

> If you are repacked or changing channel as a result of the auction, how much more will it cost you to add ATSC 3.0 in a few years as opposed to now when your transmitter plant is being rebuilt anyway? If you wait, will there be enough resources to rebuild the station in a few years? Could the repack be your best opportunity to create an ATSC 3.0-ready station at the lowest incremental costs (regardless of when you might flip the switch to begin broadcasting in ATSC 3.0)?

KEY STATION INITIATIVES THAT WILL BE ADDRESSED WITHIN THE WORKING GROUP

Public Media Company's recent ATSC 3.0 meetings included discussions about the opportunities that seem most important and most exciting to public stations. Based on the interests of the stations and national organizations that attended these sessions, we anticipate the Working Group will be interested in exploring these opportunities:

Expanded delivery of linear content. Research shows that the number of "cord-cutters" and "cord-nevers" is growing and that these viewers are rediscovering over-the-air television for live sports, local news and information. ATSC 3.0 offers many of these cord-cutters and other consumers over-the-air reception with a simple indoor antenna. With broader, easy-to-access, high-quality reception, the number of households cutting the cord is likely to continue to grow.

ATSC 3.0 offers the advantages of expanded bandwidth, much more efficient encoding of rich media files, seamless interconnection with Wi-Fi networks, and demographic and geographic targeting of content to specific audience segments. Lack of bandwidth now forces stations to make difficult choices between offering one digital channel vs. another. One path for stations to expand their service under ATSC 3.0 is to simply offer more streams

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[3] See item 4 in the Further Reading section on page 16 for the link to the report.

of high-quality public television content. Alternatively, stations may offer the same number of multi-cast channels but upgrade them to HD quality.

Public Media Company will work with interested stations in our Working Group to evaluate the potential of expanding linear television service with ATSC 3.0. Potential areas of exploration include increasing the number of multicast channels; increasing the number of HD channels; testing the cost of providing and managing these additional channels; and modeling the revenue potential of viewer fundraising and expanded underwriting on these channels.

Emergency services and alerting. The bombing in September 2016 in New York City, the terrorist attack at Ohio State University and the wildfires in Gatlinburg, TN, both in November 2016, help remind us of the importance of highly functioning, effective emergency alerting and communications systems. In each of these examples, the response to these incidents was impeded by shortcomings in present systems. In Tennessee, lives were lost because emergency alerts were not timely or useful.

For public media stations, becoming an essential provider of emergency services offers a mission-supported, locally-focused opportunity to enhance connections with governmental and educational institutions and build on the public trust of our system. Several stations across the system have already developed this capacity. The emergency alerting features built into ATSC 3.0 will greatly expand the potential of stations to fulfill this essential emergency-alerting role. There are strong potential revenues associated with emergency services and alerting, as well as reputational enhancements for stations providing the services.

In coordination with efforts underway by other national organizations, Public Media Company will partner with interested stations in our Working Group to explore the experience of stations already active in emergency alerting and how to transfer these service models to other markets. We also want to understand potential revenue models that will make stations' provision of these services feasible.

Educational services. ATSC 3.0 offers rich ways to expand and enhance our educational service[4]. Stations could pursue partnerships with local educational institutions to deliver educational content by subscription, such as professional development and continuing education courses; as well as delivery of teacher training materials, learning objects, and

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[4] See item 5 in the Further Reading section on page 16 for an article by Fred Baumgartner, TV Product Manager at Nautel. Baumgartner explains the potential of ATSC 3.0 for education is not only apparent to some of us in public television, it's clear to some outside of public television as well.

other support materials.

Public Media Company will work with members of the Working Group who are interested in education, as well as state networks and station leaders in educational service to explore the use of ATSC 3.0 to extend these services.

Ancillary/Supplementary Revenue Activities. Commercial broadcasters believe that datacasting, or leasing bits in the television data stream to enterprises that need to deliver data to many locations, will be a significant new revenue area with ATSC 3.0. For example, TVNewsCheck reported on a study done by industry consortium Pearl TV that projected revenue from datacasting would grow to nearly $3 billion annually. We believe that public television is well-positioned to capture some of this revenue by working with commercial television colleagues or pursuing opportunities independently.

Public Media Company will work with stations in its Working Group that are interested in expanding ancillary/supplementary revenue to explore potential opportunities for public television datacasting, develop business models for service, and clarify relevant regulatory issues.

Lighthouse role. While rules are yet to be drafted by the FCC, it seems likely that during the ATSC 3.0 transition, each station converting to ATSC 3.0 will be required to continue to offer its programming in ATSC 1.0. Whether or not the new FCC leadership requires this, we expect that many stations will want to voluntarily provide their content in ATSC 1.0 while consumers are transitioning to the new technology.

One way to accomplish this is to establish "lighthouse" stations in each market. A lighthouse station is a broadcaster that opts to be a late-adopter of ATSC 3.0 and agrees to provide part of its ATSC 1.0 bandwidth to one or more early adopters of ATSC 3.0. Through a channel-sharing-like agreement, this ATSC 1.0 lighthouse station would "host" the content of one or more stations that have converted to ATSC 3.0. The lighthouse station would be compensated for providing its bandwidth to the early adopter station and could potentially receive some ATSC 3.0 spectrum on the early adopter station as part of the arrangement.

> **Public – Commercial Arrangements**: Commercial operators view public television stations as ideal lighthouse partners since they do not perceive the public station as a direct competitor. A public television station considering a lighthouse role would have to think through the implications for its service carefully, from a revenue and a public service standpoint. For example, the lighthouse station would likely need to end multicast broadcasts so that it could use that bandwidth to fulfill its lighthouse role.

And to be an attractive host, the lighthouse station would have to put its own conversion to ATSC 3.0 far into the future. In addition, since commercial station's content that the lighthouse station would host would include commercials, the FCC would have to amend its rules to allow public television stations to serve in this role during the transition period. Ideally, to avoid viewer confusion, the FCC would also allow stations to display the hosted station's channel number on television sets rather than the lighthouse station's channel number.

Public – Public Arrangements: Public television stations may also work with each other to accelerate deployment of ATSC 3.0 services in their joint service area, although these partnerships may not yield the same financial return as those with commercial stations. In those areas served by multiple stations, one public station could convert to ATSC 3.0 while the other station continues to broadcast in 1.0. Each station would agree to host the other's programming, thus allowing both stations to take advantage of ATSC 3.0 while both stations also continue to provide service in ATSC 1.0. These public-public lighthouse partnerships may allow a faster transition of public TV programming in these markets. (Of course, public television duopolies can use this approach to take advantage of ATSC 3.0.)

Public Media Company will work with interested stations in its Working Group to explore lighthouse operations for both public/commercial and public/public partnerships. Areas of investigation may include the regulatory issues that will need to be revised or clarified to make lighthouse operation by a public television station possible; potential issues that need to be addressed among participants in a lighthouse agreement; and the financial potential of a lighthouse role.

PUBLIC MEDIA COMPANY NATIONAL INITIATIVES

In addition to the initiatives that public TV stations can pursue independently or as part of the Working Group, many other initiatives emerged in our planning meetings that are beyond the scope of individual stations and may represent opportunities for producers of national content and other national organizations.

Financing. Public television is facing substantial equipment replacement and upgrade needs, but without PTFP (the federally-funded equipment grant that was eliminated by Congress several years ago), many stations struggle with how to pay for this equipment. We repeatedly heard managers' concerns about the challenges stations face in obtaining capital appropriations or institutional allocations for replacement equipment or raising contributions for capital improvements. This is an especially significant challenge for state and regional networks that operate multiple transmission sites. The financing needs encompass the typical end-of-life

equipment replacement, as well as equipment improvements like higher capacity encoders for ATSC 1.0 and expenses associated with conversion to ATSC 3.0.

Public Media Company has extensive experience in obtaining tax-advantaged financing for public media projects. Public Media Company is in discussions with financial institutions about creating specific financing alternatives that public television stations might use to fund capital equipment expenses associated with ATSC 3.0 conversion; unreimbursed expenses associated with the repack; or general capital needs. Financing alternatives may include equipment leasing arrangements as well as traditional financing for equipment purchasing.

Audience data collection. The ATSC 3.0 standard allows for capturing actual user data of viewing behavior. Stations will have the opportunity to purchase this data; combine it with other information about viewer preferences and behavior; and use this information to deepen its relationship with viewers, potentially increasing donations.

Public Media Company will work with interested stations in the Working Group to explore the most effective ways to compile and use this information. TRAC Media Services has already begun to work in this area with its recent introduction of TRAC Locale and we expect to bring TRAC's expertise to our Working Group efforts. We believe there is significant opportunity in combining viewer behavior data generated by ATSC 3.0 with station social media contacts, data about donors in station databases, and information about viewers and station stakeholders collected through in-person engagement and educational activities. By combining this data in expanded CRM systems, we believe stations will attain new insights about their viewers and donors, and have the opportunity to increase their fundraising performance by acting on those insights.

Expanded Local Content. The variety of distribution options available under ATSC 3.0 enable greatly expanded local and regional content, such as linear channels of local content, local content available on-demand, and special interest programming available by subscription. While the opportunity for expanded content is substantial, the challenge of producing this content at the local station level is also sizeable. Over the last few years, models of collaboration have emerged among stations that have enabled stations to expand local content by sharing the production burden. We believe collaborative production models will be important if stations are to realize the opportunity for extended local content provided by ATSC 3.0.

Public Media Company's Channel X may be part of the solution. [Channel X](#) currently offers stations and independent producers the ability to share and distribute digital or broadcast content in a cloud-based environment. Channel X is already being used by many stations to

collaborate and share stories, multimedia content and other programming resources. And Public Media Company operates VuHaus, a video platform that showcases contemporary music produced by public media stations. VuHaus is currently a consumer-facing service that may help stations expand local music service in an ATSC 3.0 local content environment.

Skinny Bundles: General Managers at our meetings independently identified "skinny bundles" of public television content as an opportunity they were interested in exploring. Most commonly, the term "skinny bundle" refers to small packages of 10 to 15 channels offered by cable television or satellite operators at a reduced price as an alternative to a full 500-channel service. The "skinny bundle" concept discussed in our meetings was the packaging of eight channels of public television content designed to appeal to deeply loyal public television viewers. Stations would use the expanded multi-cast capability of ATSC 3.0 to deliver these channels over-the-air for a modest subscription fee using ATSC 3.0's inherent addressability. Packages might include some of our existing multicast channels with additions that may leverage catalog content, like a nature channel, a history channel, a self-help channel, etc. In an ATSC 3.0 world, all this content will be available in the home – on big-screen televisions, computers, tablets, and mobile devices. This is not an idea that stations can implement on their own since, typically, rights to this content are acquired on a national level. Public Media Company will work with stations in our Working Group and interested content distributors to explore the feasibility of the public television "skinny bundle" concept.

WHEN WILL THE TRANSITION HAPPEN?

Preparation for ATSC 3.0 is a near-term issue.

> The ATSC 3.0 standard is scheduled to be completed by the ATSC committee in April, 2017. FCC approval of ATSC 3.0 is anticipated in 2017.
> South Korea is <u>months</u> away from launching ATSC 3.0 as its broadcast standard.
> The spectrum auction is about to end and the repack about to start – decisions about ATSC 3.0 compatible equipment as part of the repack will soon confront station management.
> ATSC 3.0 service continues to be field-tested in the U.S., and we expect to see product announcements and pricing in the U.S. shortly after the standard is approved.

HOW CAN STATIONS PARTICIPATE IN PUBLIC MEDIA COMPANY'S WORKING GROUP?

Public Media Company is organizing a group of stations that are interested in working together to explore the potential of ATSC 3.0 to expand their revenue and public service. This will be a limited group of 30 stations or less. Public Media Company will work with this group on planning, business development and testing of potential services using ATSC 3.0.

Throughout this planning process, the Working Group stations will have access to the latest information about the potential of ATSC 3.0; earliest access to business and revenue opportunities that the group collectively creates; and the opportunity to participate in smaller subgroups of the Working Group to pursue specific opportunity areas of ATSC 3.0 such as education and emergency communications. By the end of 2017, we plan to have several models and plans created and refined for the participating stations to begin testing, along with customized toolkits and protocols, helping the stations set the agenda for how public television employs next generation TV technologies. The Working Group stations will have preferred access to the ideas as they are developed; rights to business models and participation in revenue ventures that result from the research and development; project "blueprints" and consulting time to help customize the plans to fit specific station needs and goals. In addition, Public Media Company will convene two in-person meetings for stations over the term of the initial planning period to provide a forum for more in-depth discussions and planning.

We will ask stations participating in the Working Group to make a financial commitment to this coordinated effort. We envision a one-year initial commitment with sliding scale pricing linked to station size and the number of transmitters. In addition to the ATSC 3.0 planning, Public Media Company will advise the Working Group stations on the overlap of repacking and ATSC 3.0 equipment planning. We are developing financing and capital leasing options to help stations acquire new equipment, which may ease the financial burdens of potentially unreimbursed repacking costs and/or moving to ATSC 3.0.

We are starting to contact stations who participated in the Public Media Company planning meetings about participating in the Working Group. Please contact us soon if you didn't have a chance to attend the 2016 meetings, but would like to consider participating in the Working Group. We hope to secure the group members by the end of February, 2017 and begin the planning work by April 1, with the first in-person meeting to take place shortly thereafter. We plan to communicate with the Working Group as a whole on a monthly basis and will be actively engaged in conversations with individual stations or clusters of stations interested in specific areas (education, data delivery, content development, lighthouse roles, etc.).

INTERACTION WITH STATIONS OUTSIDE OF THE WORKING GROUP

Public Media Company will also work to develop plans and templates for stations that want to follow the developments in ATSC 3.0 but do not want to participate in the Working Group. These may include stations that want to assume a lighthouse role or explore other ideas made possible with the new technology platform. We will develop agreements and terms for those stations that may choose to become a lighthouse station, and will help

facilitate their planning and agreements with commercial partners.

Public Media Company will also work with individual station clients to help address specific interests and needs. We are available to help stations as they explore these opportunities and to ensure that station management, staff, boards or licensees are briefed on these important and impactful transitions. Some of the tools we've talked about, such as the financing options and equipment leasing, will be available and helpful to a wide range of stations. If you are interested in knowing more about these developments, email us at info@publicmedia.co.

PUBLIC MEDIA COMPANY'S QUALIFICATIONS AND ITS ROLE IN ATSC 3.0 PLANNING

Over the course of Public Media Company's 15-year history as a national nonprofit strategic consulting company, we have worked with more than 300 public broadcasters; secured access to public media programming for more than 1-in-5 Americans; structured more than $320 million in transactions; secured more than $100 million in capital for public broadcasting; built Channel X and VuHaus; supported stations' efforts to prepare for the spectrum auction; and engaged in dozens of other consulting projects to assist stations in exploring new business opportunities.

Public Media Company was founded on the principle of strengthening public broadcasting stations. We believe ATSC 3.0 will be a powerful tool to grow the capacity of local public television stations. However, to realize this potential, stations should work together so that costs, risks, and benefits can be shared among a larger group of stations.

Over its history, Public Media Company has built relationships with commercial broadcasters, leading financial and banking institutions, foundations, technology companies and other national public media institutions. We often play the connecting role between these worlds, resulting in new organizations, businesses and technologies for public broadcasting.

Public Media Company developed the Public Radio Fund, a loan fund that aggregated over $9 million in investments from foundations (such as Ford Foundation and Calvert Foundation); public media entities (NPR invested $2.5 million in the Fund); and individuals. The Fund provided loans at a below-market cost to public stations. The Fund has since paid the initial investments and returns to all the investors. Public Media Company's network within the financial world will be utilized to help respond to public TV stations' capital investment needs related to ATSC 3.0.

Here are the some of the foundations and organizations that have partnered with Public Media Company over the past 15 years:

Annenberg Foundation	Otto Haas Charitable Trust #2
Argosy Foundation	Nonprofit Finance Fund
Corporation for Public Broadcasting	NPR
Calvert Social Investment Foundation	John D. and Catherine T. MacArthur Foundation
Doris Duke Charitable Foundation	Open Society Institute
FJC – A Foundation of Philanthropic Funds	Rockefeller Brothers Fund
Ford Foundation	Station Resource Group
Hull Family Foundation	Surdna Foundation
John S. and James L. Knight Foundation	Wyncote Foundation

In 2014, Public Media Company also established VuHaus, a national nonprofit that is a partnership with five founding public radio stations. VuHaus is a digital music video service that introduces emerging and established artists to new audiences. Public Media Company manages VuHaus, which has now expanded to more than 15 participating station members.

In early 2015, Public Media Company launched Channel X, a digital-based video exchange that brings new programs and journalistic reporting from diverse, independent and often underrepresented sources to public radio and television. Channel X brings ideas and issues to the fore that distinguish public media in a rapidly changing media landscape and helps stations expand their offerings in digital video. We believe our experience in creation, implementation, and deployment of VuHaus and Channel X will be valuable assets in planning for and implementing new content distribution through linear channels, on-demand offerings, and special interest programming available by subscription.

Public Media Company is not a content producer or a membership organization; it is an independent 501(c)3 organization. Our board consists of lay leaders who bring extraordinary backgrounds to help guide our work. We've been adept at assembling the best skills and human resources needed to accomplish goals and solve problems that meet the needs of stations.

As a national nonprofit dedicated to the success of public media, Public Media Company is prepared to engage with interested stations in pursuing some or all of these activities, complete the research and development needed to launch projects that are demonstrated to be both revenue producing and sustainable, and build the national partnerships needed to support these public television projects. We believe that our experience and business

development skills can aid stations in this important and critical transition to ATSC 3.0.

NEXT STEPS

Thank you to all who contributed time and insights to our discussions. Please contact us if you are interested in joining the Working Group or if Public Media Company can help you in any other way. Please feel free to email us at info@publicmedia.co.

Public Media Company ATSC 3.0 Resource Center

A curated collection of links, articles and commentary regarding ATSC 3.0, updated regularly. Topics include an ATSC 3.0 technology overview, timing and transition, financial implications, emergency alerting, the evolution of TV viewership, and much more. http://www.publicmedia.co/atsc-and-public-media-company/

ATSC 3.0 General Info

1. A short video by the Advanced Television Systems Committee, Inc. http://atsc.org/
2. ATSC 3.0: What you need to know about the future of broadcast television, published by CNET https://www.cnet.com/news/atsc-3-0-what-you-need-to-know-about-the-future-of-broadcast-television/

Commercial Broadcasters on the ROI of ATSC 3.0

3. Video of a panel attended by the CEO's of all major commercial broadcasters talking about ATSC 3.0 https://www.youtube.com/watch?v=80lpWI8Zdqk

Technical Requirements, Costs, and Challenges & Opportunities

4. The PBS Engineering Technology Advisory Committee (ETAC) Position Paper on ATSC 3.0. http://www.publicmedia.co/wp-content/uploads/2017/01/PBS-ETAC-ATSC-3-dot-0-position-paper.pdf

Educational Opportunities

5. An article by Fred Baumgartner, TV Product Manager at Nautel, explains the potential of ATSC 3.0 for education is not only apparent to some of us in public television, it's clear to some outside of public television as well. http://www.tvtechnology.com/atsc3/0031/atsc-30-and-educational-media/279826