DRAFT STANDARDS-DRIVEN PUBLIC-PRIVATE PARTNERSHIPS (SD-PPPS) MODELS

INTRODUCTION

The following document was developed to support discussions at two ANSI brainstorming sessions, specifically to provide attendees with common terminology and context about public-private partnerships (PPPs). After examining existing a rich landscape of literature, ANSI has drafted a description of standards-driven PPPs (SD-PPPs) and five proposed SD-PPP models. These models should not be considered final and are currently under review. Revisions are anticipated post event. Reviewers are requested to send their feedback to Christine DeJong Bernat.

WHAT IS A PUBLIC-PRIVATE PARTNERSHIP (PPP)?

Public-private partnerships (PPPs) are collaborations between a government agency and a private-sector organization for the purposes of delivering a project or service, and which involve the sharing of resources, responsibility, risks, and benefits. While there is a long history of PPP utilization around the world, no single widely-adopted definition exists. PPP characteristics and objectives are flexible, may be formal or informal, and vary based on the needs of parties involved. However, the most prevalent use cases are long-term agreements which support infrastructure development where the government funds the private sector to carry out a project.

Standards-driven PPPs (SD-PPPs) are a type of PPP where resources invested are directly impacting consensus-based standards development. SD-PPPs may or may not involve contractual agreements, financial support, or formal relationships between public and private representatives. SD-PPPs may prove more effective when private-sector technology and innovation synergizes with public-sector priorities and incentives. Common work products of SD-PPPs are:

- **Pre-standardization activities**: Roadmaps, gap analysis, research, and development, etc.
- **Standards development**: Support for the proposal and/or formation of new committees, identifying and convening technical experts, content development, etc.
- **Implementation**: Increasing awareness, technical training, workforce development, conformity assessment, etc.

Typical objectives and characteristics of SD-PPPs have been formulated into models below. The details associated with the models shown should not be perceived with definitive or restrictive boundaries; instead, they support comparison of existing use cases and evaluation of approaches based on the standards readiness of technologies and services.

ASSUMPTIONS

The following terms are used within the SD-PPPs models. To avoid repetitive listings in the tables below, these terms are defined to provide context for these models only and are not considered inclusive.

Public Sector / Entity
- Government: International authority, federal, state, local, military, law enforcement, government laboratories, etc.

Private Sector / Entity
- Industry: manufacturer, developer, service providers, consortia, trade association, professional society, 3rd party laboratories, other non-profit NGOs
- Research Institutions: universities, centers of excellence (CoE), think tanks, research firms
- Workforce Development Providers: any organization offering services to provide knowledge, skills, and abilities (KSA) education and training to individuals including academia and other training providers
- Certification Bodies: non-governmental / third-party product or personal certification providers
- Standards Development Organization (SDO): accredited and non-accredited standards and codes development organizations, as well as consortia, professional societies and other groups convening experts to develop consensus standards

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Other:

- Agreement: A written agreement which supports the execution of a SD-PPP may be referred to as a cooperative agreement, award contract, procurement contract, Cooperative Research and Development Agreement (CRADA), memorandum of understanding (MOU)/agreement (MOA), other transactional agreement (OTA), bilateral contract, non-disclosure agreement (NDA), licensing agreement, etc.

SD-PPP MODELS

The following models outline the potential partners, characteristics, objectives, roles, funding, and contractual considerations typically found in the research and standards community. There are five models proposed in this document:

1. Direct-Participation
2. Standards Acceleration
3. Funded Participation
4. Funded Standards Development
5. Policy and Conformance Driven

Actual SD-PPP use cases often include the characteristics of more than one model. For example, a SD-PPP may be a "standards acceleration" and a "funded participation model."

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1. DIRECT-PARTICIPATION

A direct participation SD-PPP model is when the public sector directly participates in the standards development process alongside to any other stakeholder at the table. As with any other participant, they represent their organization and follow any policies set forth by their employer as well as the regulations/bylaws of the SSO supporting the standards development activity. Policies and guidance about federal government participation can be found in Public Law 104-113, National Technology Transfer and Advancement Act of 1995, and OMB Circular A-119, Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities.

Partners Involved	- Governement, SDOs and SDO members
Objectives	- Support the development of standards - Provide insight about what role standards would play in relation to existing or future government regulations/policy - Gather information to inform potential government regulations/policy
Work Products	- Pre-standardization: technical reports, strategic plans - Standardization: Standards development - Implementation: Increasing awareness, technical training, workforce development on standards
Convening Mechanisms	- Meetings (various forms) of stakeholders through committees, subcommittees, and working/task groups which are organized by SDO - Collaborative electronic tools used for draft development and approval of work products
Public Sector Role	- Government actively participates in a SDO at varying capacities including contributing technical expertise for draft development, voting on ballots, chairing a committee, participating in short and long-term strategy development, hosting meetings, and providing liaison reports
Private Sector Role	- SDO provides the infrastructure and services to convene, develop and publish the standards - SDO members actively participates in a SDO at varying capacities including contributing technical expertise for draft development, voting on ballots, chairing a committee, participating in short and long-term strategy development, hosting meetings, and providing liaison reports
Funding Considerations	- Funding is not provided by the public or private sector. Instead, each organization provides non-financial contributions based on the services an organization normally provides or expertise a representative is permitted to share - SDO membership fees may apply
Agreement Considerations	- No agreements between partners is necessary. Terms and conditions for SDO membership may apply - Terms and conditions for SDO membership may apply

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2. STANDARDS ACCELERATION

A standards acceleration SD-PPP is primarily focused on convening stakeholders to discuss opportunities, challenges, and needs for a given technology and applicable sectors. The primary objective of SD-PPP activities may not be to develop standards but instead support pre-standardization efforts. Ultimately, the desired outcome is to determine if there is consensus about the need for standards, and to help advance decision-making and therefore accelerate subsequent standards development.

Partners Involved	SDOs, research institutions, industry, workforce development providers, government
Objectives	Accelerate the development of standards by convening experts to increase awareness about existing and needed research and standards
Work Products	Pre-standardization: Technical workshop and symposia, standards road mapping (landscaping and gap analyses), and other research and technology reports
Convening Mechanisms	- Meetings (various forms) of stakeholders through committees, subcommittees, and working/task groups which are organized by one of the PPP partners - Collaborative electronic tools used for draft development and approval of work products
Public Sector Role	Government actively participates in the activity at varying capacities including contributing expertise for development of the work products, such as chairing a committee, participating in short and long-term strategy development, hosting meetings, and providing liaison reports
Private Sector Role	Private sector actively participates in the activity at varying capacities including contributing expertise for development of the work products, such as chairing a committee, participating in short and long-term strategy development, hosting meetings, and providing liaison reports
Funding Considerations	- Public and private sectors may provide financial support. If a direct result of a grant, the private sector funding may be matched by public sector funding in whole or in part. - Public and private sectors may proivde in-kind contributions via technical expertise, host events, as in-kind support. - Private sector may offer financial sponsorships. Contributions are typically received from trade associations and consortia to offset costs for roadmapping efforts.
Agreement Considerations	- An agreement, such as a cooperative agreement or MOU, may be unitized to cover roles and responsibilities of activity sponsors - A non-disclosure agreement (NDA) may be utilized and be applicable to all participants. - Terms and conditions for membership may apply depending on which organization is supporting the activity.

3. FUNDED PARTICPATION

A funded participation SD-PPP is utilized to increase participation of subject matter experts in the standards development process. Often, startups, small or medium companies in new or niche technology areas, have limited resources to travel and participate in standards, or, the sector has not yet established enough resources to have as many subject matter experts who have longstanding knowledge and experience both in the field and in standards development. Both resource constraints can delay standards development or impact a balance of representation. For this to be a PPP, some funding for individuals to participate would need to come from the government but may also come from the private sector.

Partners Involved	Government, industry, research institutions
Objectives	Support increased participation to balance the representation of stakeholders in an activity including small and medium organizations, startups, or key technical experts without the resources to pay participation (membership/event) fees or travel
Work Products	N/A, this supports standards development but the objective is not a tangible work product.
Convening Mechanisms	- N/A, beyond communications among the government, applicant, and SDOs, no activity is convened as a result of this PPP. - Funding recipient would participate in the SDO activities via their convening mechanisms.
Public Sector Role	- Active communications with SDO and industry about gaps in expertise at the table - Allocate funding in agency budget and have an application process to access funds - Active participation in standards development is necessary from the public sector if policy/regulations implications exist or are anticipated.
Private Sector Role	- Solicit funding from the public sector through the mechanisms offered by the government. - Active communications with the government about gaps in representation - Active participation in standards development is necessary from the private sector.
Funding Considerations	- Funding from public entities may be allocated from a government grant or government project budget. - Funding from the private sector may be allocated as well; however, public funding is required for this to be a PPP.
Agreement Considerations	- The partnership may be formal (with contractual agreement) or informal (without contractual agreement). - The government may have an application process and terms for an applicant to abide by. - Contracts may be utilized to cover roles, responsibilities, and reporting of funding providers and recipients.

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4. FUNDED STANDARDS DEVELOPMENT

A funded standards development SD-PPP is utilized when stakeholders need resources to conduct research, testing, or data gathering to help inform and develop standards. The activities may result in content development (such as test methods, best practices, or design requirements), technical presentations at a SSO meeting, or help with anonymizing information so industry data can be shared without revealing IP. In some cases, funding is allocated to an organization or to an individual with the objective of drafting a standard(s).

Partners Involved	Government, industry, research institutions, SDOs
Objectives	Accelerate standards development by funding initial research
Work Products	- Pre-standardization: Research, research reports, databases, statistics - Pre-standardization: Formation of a new standards developing committee or SDO - Standards Development: Draft proposed test methods, design specification, best practices - Implementation: Increasing awareness, technical training, workforce development on standards
Convening Mechanisms	- Structure: A center of excellence (COE) or institute may be formed to carry out the research but this is not always the case. A singular or narrow scope of research may not require a formal structure to be established. - Strategic Planning: Convene Advisory / Steering committee meetings to direct and maintain the mission, goals, and strategic direction of the project - Research Projects: Convene meetings and events to outline project scope, execute project and evaluate results
Public Sector Role	- Active communications with SDO and industry to learn and identify challenges and solutions to standards development obstacles - Allocate funding in agency budget and have an application process to access funds - Active participation in standards development is necessary from the public sector if policy/regulations implications exist or are anticipated
Private Sector Role	- Solicit funding from the public sector through the mechanisms offered by the government - Active communications with the government about challenges and solutions to standards development obstacles - Active participation in standards development is necessary from the private sector
Funding Considerations	- Public and private sectors may provide financial support. If as a direct result of a grant, the private sector funding may be matched by public sector funding in whole or in part. - Public and private sectors may proivde in-kind contributions via technical expertise, host events, as in-kind support. - Private sector may offer financial sponsorships. Contributions are typically received from trade associations and consortia to offset costs for efforts.
Agreement Considerations	- An agreement, such as a cooperative agreement or MOU, may be utilized to cover roles, responsibilities, and reporting of funding providers and recipients. - A non-disclosure agreement (NDA) may be utilized and be applicable to all participants.

5. POLICY & CONFORMANCE DRIVEN

A policy and conformance driven SD-PPP is utilized when the public and private sector collaborate to develop standards specifically to meet a new regulation, policy, or conformity assessment requirement. Initiation of this SD-PPP may also be the result of an emergency (e.g., pandemic or incident involving fatalities). This SD-PPP stands out as its own model solely because it requires rapid development of one or more standards and dedicate resources to accomplish this in a specific timeline. This scenario typically involves a combination of characteristics described in the Direct Participation, Standards Acceleration and Funded Participation SD-PPP models.

Partners Involved	Government, industry, research institutions, SDOs
Objectives	Enable or accelerate standards development to support an anticipated new regulation or certification requirement. The standards are expected to be incorporated by reference.
Work Products	- Pre-standardization: Strategic plans and roadmaps - Standards Development: Standards (one or more standards) - Implementation: Increasing awareness, technical training, workforce development on standards
Convening Mechanisms	- Meetings (various forms) of stakeholders through committees, subcommittees, and working/task groups which are organized by one of the PPP partners - Collaborative electronic tools used for draft development and approval of work products - Direct commuication to determine, execute and report milestones
Public Sector Role	- Lead or actively participate in communications with the private sector to jointly develop a strategic plan which sets forth specific needs, timeline with milestones, and other necessary expectations for execution - Allocate funding in agency budget to ensure government staff have support to actively engage in strategic plan development and execution
Private Sector Role	- Lead or actively participate in communications with public sector entities to jointly develop a strategic plan which sets forth specific needs, timeline with milestones, and other necessary expectations for execution - Determine if additional funding is needed and budgeted for to support the private sector if acceleration of deliverable is needed - Allocate funding in organizational budgets to ensure staff have support to actively engage in strategic plan development and execution
Funding Considerations	- Funding is not required by the public or private sector. In some instances, each organization provides non-financial contributions based on the services an organization normally provides or expertise a representative is permitted to share. - To ensure success, all stakeholders will need to allocate additional time and resources for acclerated efforts over longer periods of time. It may require that responsibilities of non-related activities are reallocated to other staff temporarily or permenantly. In addition to time investments, it is likely that travel to events will increase significantly especially as the activity begins. - SDO membership fees may apply
Agreement Considerations	- The partnership may be formal (with contractual agreements) or informal (without contractual agreement). - If funding is part to the partnership, agreements may be utilized to cover roles, responsibilities, and reporting of funding providers and recipients. - A non-disclosure agreement (NDA) may be utilized and be applicable to all participants.