

**Meeting:** IESBA  
**Meeting Location:** Virtual  
**Meeting Date:** November 30, December 1-3, 8,16, 2021

## Agenda Item

# 4

### Technology Fact Finding and Thought Leadership (Update)

#### I. Objective

1. To receive an update on the Working Group's<sup>1</sup> activities.

#### II. Recap of Working Group's Remit

2. Established March 2021, the Working Group is intended to:
  - Undertake fact finding to identify and assess the potential impact of technology developments<sup>2</sup> on the accounting profession in relation to ethics and independence.
  - Develop or facilitate the development of technology-related thought leadership and other materials in relation to ethics and independence for professional accountants (PAs) and the wider stakeholder community.

#### III. Activities since Last IESBA Meeting

##### Recap of September 2021 Discussions

3. The IESBA received an update on the Working Group's collaborative efforts with other organizations and other activities in Q3 2021 to progress its fact finding in a number of technology areas and the development of technology-related thought leadership and other materials. The IESBA considered the Working Group's proposal to establish an external advisory group comprising individuals with expertise and practical experience in technology to support and provide input to the Working Group. The IESBA also received an external presentation on *Cybersecurity and the Accounting Profession: A Discussion of Ethical Implications*.

##### *IESBA National Standard Setters Liaison Group (NSS) and IFAC Small Medium Practitioners Advisory Group (SMPAG) Meetings*

4. During Q4 2021, representatives of the Working Group met with the NSS and representatives of the SMPAG.

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<sup>1</sup> The Working Group comprises:

- Brian Friedrich, Chair, IESBA Member
- Vania Borgerth, IESBA Member
- David Clark, IESBA Technical Advisor
- Sundeep Takwani, IESBA Technical Advisor
- Johanna Field, IAASB Correspondent Member

<sup>2</sup> Focus areas beyond artificial intelligence (AI), big data, and data analytics, such as blockchain, cybersecurity, and cloud computing.

- As further discussed at paragraphs 10-11, the NSS provided input on the Working Group's plan to establish an IESBA Technology Advisory Group (IESBA TAG).
- The SMPAG provided perspectives and input in response to the specific matters raised in the Working Group's Briefing Paper, [Technology: Exploring Ethics and Independence Issues](#).

The Chair of the Working Group will brief the IESBA on the key outcomes of these meetings.

## IV. Matters for IESBA Information

### A. Fact-Finding Activities Since September 2021

#### *Presentations from External Parties*

5. The Working Group received two presentations<sup>3</sup> and engaged in questions and answers (Q&A) sessions from external presenters about specific emerging technology issues to help further inform its understanding and thinking on the ethical implications of technology developments on PAs:
  - *Cybersecurity: State of Play* from [Clinton Firth](#), EY Global Cybersecurity Energy Industry Leader. Among other matters, Mr. Firth highlighted the following key themes:
    - Cybersecurity risk is increasing exponentially, but there are challenges within individual organizations to obtain the sufficient investment budgets and resources to address such risk. Generally, three types of cybersecurity attack targets are observed: (a) financial systems, (b) intellectual property, and (c) intelligence.
    - Digital disruption is affecting all organizations, which increases the available cyberattack surface area. For e.g., the impact of generally less secure internet-of-things (IoT) devices connected to corporate digital ecosystems create potential 'gaps' in enterprise IT security.
    - Maintaining cybersecurity has a similar systematic approach to that of audit and hence PAs have a transferable skillset enabling them to address such risks. It is observed, however, that to successfully address cybersecurity risk, PAs need to (a) understand the plethora of cyber-regulations, and (b) upskill their knowledge as to how cybersecurity might be undermined, enabling them to ask the right questions.
    - PAs typically have roles across organizations and thus be in an ideal position to not only advocate for cybersecurity hygiene in business, but also to ensure that appropriate measures are taken within organizations, i.e., PAs might be Audit Committee members, Board members, senior executives in management such as CFOs, Controllers of a specific business function, etc.

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<sup>3</sup> A comprehensive [playlist](#) of the technology presentations is available on the IESBA's Technology [Focus Webpage](#). The Webpage provides resources to assist stakeholders follow and monitor the work of the TWG. It also provides links to ethics-related guidance and resources that are relevant to navigating the challenges and opportunities arising from evolving technologies.

- *Robotic Process Automation (RPA): Transforming the Finance Function* from [Loreal Jiles](#), Vice President of Research and Thought Leadership at the Institute of Management Accountants (IMA). Among other matters, Ms. Jiles highlighted the following key themes:
  - Bots execute automation opportunities and are essentially digital workers in an organizations' business unit. For e.g., they can perform data entry, generate reports, read PDF documents, send emails, etc. Intelligent RPA, which is a pairing of RPA and artificial intelligence (AI) enables a bot to learn as it processes transactions.
  - The impact of automation has already, and will continue to have, a wide-reaching impact on the accounting workforce, i.e., 94% of U.S. accountant and auditor jobs are likely to be impacted by automation. However, roles such as strategy formulation, business development, strategic decision support and risk management are less likely to be automated, i.e., 20% or less of these roles are considered fully or highly automatable.
  - As there are PAs typically within any business unit of larger organizations, PAs are in an ideal role to enable RPA. This includes ensuring appropriate governance processes over associated risks such as (a) operational, (b) financial, (c) regulatory, (d) organizational and (e) technological.<sup>4</sup> It was noted that when enabling RPA within organizations, the IT department is typically the lead architect of such change, and that the most successful RPA implementation is when PAs work closely with the IT department to advise them on the intricacies of the business process, the impact desired and output required from RPA.
  - Selecting and prioritizing the *right* automation opportunities is important. Questions that a PA might ask and consider when determining whether RPA is appropriate include: Is the business process highly manual and repetitive? Is the process mature, with definable criteria, rule-based with a low exception rate? What is the impact of automating the process on the control and regulatory environment? What is the value creation arising from RPA, i.e., financial or others?

#### *Attendance at MIT EmTech Virtual Conference 2021*

6. Representatives of the Working Group attended a [virtual conference](#) on emerging technology and global trends to help further inform its understanding and thinking on the potential ethics implications of technology developments on PAs. Topics explored included:
  - Cybersecurity – The importance of companies having cybersecurity as top of mind. Companies should recognize that customer money and data are the most valuable assets that companies

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<sup>4</sup> The Working Group noted the following examples of each type of risk:

- Operational risks: insufficient exception handling in process workflows or inefficient operational delivery from poor bot resource management.
- Financial risks: poorly defined requirements for bots leading to financial misstatements or inaccurate payments.
- Regulatory risks: humans directing bot activities in a fraudulent manner for government reporting.
- Organizational risks: Inadequate change management, documentation, or business continuity planning.
- Technological risks: instability of integrating applications and the effect that might have on bot performance, cybersecurity risks, inappropriate access controls.

Ms. Jiles noted that overall key components to enabling good RPA governance include governing bodies, organizational construct, operational life cycle, internal controls, technology governance, performance management, and vendor management.

can hold, and that although investment in cybersecurity to protect such assets may be costly, allowing a cyberbreach is much more challenging and expensive to address. Being cyber-prepared includes:

- Having an incident response company on retainer and ensuring that they know your business before an issue happens.
  - Planning a response for all types of cyberattack possibilities, i.e., Will the company pay ransomware, and whether yes or no, what are the policies and procedures it will follow.
  - Proactive Tech Refresh, i.e., regular updating of technology.
  - Incentivizing proactive security behavior and establish a security culture across the company.
- Bias and AI – Combating bias in AI systems includes (1) understanding the data going into the model, (2) understanding what the model is, (3) identifying potential unintended consequences of the model, (4) utilizing human in the loop, and (5) ensuring ethical organizational culture. Since there is no independent authority that can evaluate and enforce the ethics of an AI system, the importance of organizational culture was stressed to foster a safe environment for data scientists and others to escalate any bias or discrimination identified in AI systems without the threat of “retaliation”.
  - Blockchain – Use cases are broad, for example, to ensure validity over academic and other credentials, land ownership, reputational history, product counterfeiting, supply chain tracking, Know Your Client (setting up new financial accounts more quickly through faster identity verification), anti-money laundering audit trails for transactions.
  - Internet of Things – In 2012, IBM predicted 1 trillion IoT devices by 2015. However, the number of IoT devices now (30+ billion) have significantly fallen short of this prediction due to the (1) lack of battery life in today’s battery technology, (2) integration required between assets, sensors, connectivity and analytics, (3) integrating with various legacy systems, (4) security issues, and (5) the need for collaboration between vendors.
  - Edge Computing – Improving response times and saving bandwidth by bringing computation and data storage closer to the sources of data (i.e., important when facing today’s supply chain issues). Real-time processing of data at the source allows continuous learning and optimization of the process, as well as an immediate response. Different from cloud computing which aggregates data collection from the source before it is processed in the cloud.

#### *Targeted Outreach*

7. Representatives of the Working Group conducted eight targeted outreach meetings with representatives from several important stakeholder groups.<sup>5</sup>

#### Those Charged with Governance

- [Global Network of Director Institutes](#) (GNDI) and [Institute of Corporate Directors, Canada](#) (ICD) – [Rahul Bhardwaj, Chair](#) - GNDI (a global network representing more than 150,000 directors,

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<sup>5</sup> To allow for a frank dialogue, outreach participants were informed that none of their comments would be specifically attributed to them or their organizations, but rather would be aggregated with the sum of the Working Group’s outreach and evaluation thereof.

which is focused on enhancing the capability of directors to drive sustainable performance for the benefit of shareholders, the economy and society) and CEO of the ICD in Canada.

- [Asian Corporate Governance Association](#) (ACGA) – [Jamie Allen](#), Secretary General; [Nana Li](#), Research and Project Director. Jamie is a former member of the Financial Reporting Review Panel and Hong Kong Stock Exchange listing committee. ACGA has more than 100 member companies, including global pension funds and asset managers, listed and unlisted Asian companies, professional firms and universities.
- [Centre for International Governance Innovation](#) (CIGI) – [Michel Girard](#), Senior Fellow who contributes expertise in the area of standards for big data and artificial intelligence (AI). CIGI is a think tank that addresses significant global issues at the intersection of technology and international governance.

#### Public Sector Organization

- [US Government Accountability Office \(US GAO\)](#) – [Taka Ariga](#), Chief Data Scientist who leads the US GAO's newly established Innovation Lab in driving problem-centric experiments across audit and operational teams through novel use of advanced analytics and emerging technologies.

#### Professional Accountants in Business (PAIBs) and Technology Companies

- [Verracy](#) – [Mary Breslin](#), Managing Partner. Verracy provides consulting and training services to organizations around risk management, internal audit, data analytics, ethics and compliance.
- [ActiveState](#) – [Jacqueline Winter](#), CFO, whose role goes well beyond financial reporting and into HR recruiting, IT and information security, and administration. ActiveState provides a secure software supply chain platform adopted by 97% of Fortune 1000 companies to manage the secure implementation of open-source software.
- [MindBridge AI](#) – [Danielle Cheek](#),<sup>6</sup> VP Strategy and Industry Relations; Member, IFAC Small and Medium Practices Advisory Group; former Chair, AICPA Technical Issues Committee. MindBridge develops software that, through the application of machine learning and artificial intelligence technologies, helps organizations across multiple industries (including audit firms) detect anomalous patterns of activities, unintentional errors and intentional financial misstatements.

#### 8. Some of the themes arising from these outreach meetings include:

- The use of RPA in organizations is now common and RPA with AI and machine learning is on the rise, though not yet common. In general, effective implementation of innovative technologies varies considerably by industry, with banking and finance typically the most advanced. Some organizations – particularly smaller organizations and firms – are increasingly implementing less proven and tested technology tools as a result of both competitive pressures and the pace of change and finding it challenging to obtain sufficient documentation and explanation of how some of these tools perform their applications.

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<sup>6</sup> As part of this outreach discussion, Ms. Cheek also provided specific input on the Technology Task Force's (TTF) proposed changes to the Code ([September Draft](#)). These comments were shared with the TTF and the TTF Chair acknowledged and responded to this input during a subsequent November SMP Advisory Group meeting that Ms. Cheek attended.

- PAs are typically involved at some, or in fact many, stages of the data governance chain (i.e., the use, interpretation, presentation, and ownership of data) and therefore the implementation of technology cannot be just an IT department issue. As emerging technologies are considered for strategic implementation at organizations, it is essential for PAs to “earn” their seat at the table and to help oversee the implementation and ongoing operations. To do so, PAs have to be appropriately upskilled in disruptive and innovative technologies so that they can understand the critical concerns and ask the right questions. Furthermore, traditional technical skills are table stakes and professional skills are fundamental.
- Cybersecurity is of critical importance and PAs and others in the organization need to work together to ensure the data protection, confidentiality and, where relevant, privacy of organizational data.
- PAs should err on the side of being transparent (though respecting the limits of confidentiality); transparency should be reflected not through the volume of information made available, but rather the quality, fitness-for-purpose, and understandability. In this regard, it was observed that terms such as “transparency”, “explainability”, “fairness”, “accountability”, “privacy” are fairly common in AI ethics guidelines, and that more guidance (i.e., through standardized best practice operation manuals, or being made explicit in the Code) on what these terms mean, and how they should be applied, would be helpful so that PAs understand and manage the relevant implications and issues arising from – in particular – the use of AI. One respondent wondered whether these terms might sound too “commercial” to be incorporated in the Code.

There was a view that having guidance for PAs that is aligned to concepts that are pervasive in standardized technology-related materials might help PAs further understand the ethical issues that arise from the use of emerging technologies. Also, there was a view that inclusion of these concepts in the Code might better demonstrate the profession’s commitment to understanding and responding to the ethical behavioral issues that might arise.

#### *Outreach Planned for Q1 2022*

9. The Working Group is planning to host joint multi-stakeholder outreach events during the first half of 2022 with regional professional accountancy organizations, including the Pan African Federation of Accountants (PAFA) and Inter American Accounting Association (IAAA). The perspectives from these regional events will also inform the Working Group’s final report.

#### **B. Update on Development of Thought Leadership and Other Materials, including Collaboration**

10. The Working Group continues to actively facilitate the development of thought leadership and other materials with IFAC and:
  - (a) Representatives of CPA Canada and Institute of Chartered Accountants of Scotland (ICAS). As previously communicated to the IESBA, the Working Group is providing input on four thought-leadership papers resulting from a February 2021 Exploratory Paper and Virtual Event titled; [Ethical Leadership in an Era of Complexity and Digital Change](#).
    - The first paper titled, [Complexity and the Professional Accountant: Practical Guidance for Ethical Decision-Making](#) was released in August 2021. This paper:
      - Highlights the increased complexity in today’s world, exacerbated by technology;

- Distinguishes complicated from complex circumstances;
  - Explains why it is important for PAs to recognize complexity, and
  - Outlines practical guidance for PAs to manage complexity.
  - The second paper, entitled *Technology is a Double-Edged Sword*, is currently concluding the publication phase and is expected to be released prior to the December IESBA Board meeting. This paper:
    - Highlights the opportunities and challenges to the accountancy profession as a result of technology and incorporates two blockchain and AI systems examples to illustrate this;
    - Emphasizes the importance of data quality;
    - Explains why ethical leadership is important in the developing, implementing and use of technology; and
    - Outlines practical guidance for PAs as a way forward.
  - The third paper is titled *Managing Bias and Mis/Disinformation*, is currently in review phase. Release is anticipated in Q1 2022. This paper:
    - Highlights the impact of bias and mis- and disinformation;
    - Explains why and how bias threatens a PA's obligation to comply with the fundamental principle of objectivity;
    - Emphasizes the guidance on bias and an inquiring mind within the Code; and
    - Outlines a layered approach for PAs to consider their professional obligations for objectivity, professional competence and due care and their public interest responsibilities in the face of bias and mis- and disinformation.
  - The fourth paper is titled *Mindset and Enabling Skills*. This is currently being drafted and release is anticipated during Q1 2022.
- (b) The staff of the Australian Accounting Professional and Ethical Standards Board (APESB). This non-authoritative resource will provide guidance on how to apply the extant International Independence Standards as revised by the non-assurance services (NAS) project in specific scenarios, for example, where an audit client asks a firm to:
- Implement an entire software suite;
  - Implement software developed by the firm;
  - Provide a NAS that might appear to be “routine or mechanical”; and
  - Provide a NAS due to insights gained from the use of technology in an audit engagement.

A preliminary working draft has been developed by APESB staff and input has been provided by the IESBA Technology staff and the Working Group Chair. An updated draft will be circulated for the Working Group, as well as the NAS and Technology Task Forces, for their input in due course. Finalization is anticipated by Q1 2022.

- (c) IESBA Technology Initiative staff developing technology-focused installments of the *Exploring the IESBA Code* series. The Working Group has provided input on the first installment titled *Applying the Conceptual Framework: Ethics and Artificial Intelligence*. The draft is now in the design phase and it is anticipated that the first installment will be released in Q1 2022.
- (d) Representatives and staff of the Japanese Institute of CPAs (JICPA). The aim of this material is to provide guidance to (PAIBs and PAs in public practice (PAPPs) on practical issues in ethical leadership. It will include approximately 10 technology-related scenarios on topics such as:
  - How leaders should communicate, structure and demonstrate their responsibility to staff when using, developing or implementing technology.
  - How organizations can obtain the type of knowledge and skills relevant in the digital age.

The material is currently being drafted by JICPA representatives, and the Working Group's input will be sought in due course. Finalization is anticipated during 2022.

- 11. The Working Group notes that its forthcoming publications are at varied stages of development. Cognizant of concerns about stakeholder fatigue, the Working Group is carefully considering its planned timeline for issuance and will coordinate closely with IESBA staff to stagger as appropriate. The Working Group notes that staggering the release of its materials also helps to alleviate resource challenges and might also reduce the risk of its issued materials being lost within a “sea of documents” released immediately before the end of 2021.

### **C. Establishment of an IESBA Technology Advisory Group (IESBA TAG)**

- 12. In September 2021, the IESBA expressed support for the Working Group's plan to establish an IESBA TAG consisting of individuals who can demonstrate a deep understanding of technological developments (including adoption timeframes of key innovations and technologies). This IESBA TAG is anticipated to act as a sounding board for the TWG's work through active participation at meetings by advising on agenda materials, and consulting with jurisdictional stakeholders on an as needed basis.
- 13. In late October 2021, during the NSS' bi-annual meeting, the Working Group Chair provided an update on the Working Group's activities and briefed the NSS on the plan to establish an IESBA TAG. The NSS expressed support for the plan and were invited to participate, specifically through providing:
  - Candidates to recommend for IESBA TAG membership and brief biographies of those candidates recommended to illustrate how individuals meet the established criteria; and
  - Staff resources and/ or a co-chair to support the operations of the IESBA TAG, as well as preliminary views on the duration of commitment and/or hours per time period that such resources would be available.

A detailed description of the desired characteristics and overview of responsibilities envisioned for IESBA TAG members<sup>7</sup> was circulated to the NSS to inform their responses.

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<sup>7</sup> Refer to Appendix 1

14. Subject to NSS responses requested by the end of November; a short list of qualified candidates,<sup>8</sup> staff resources and co-chairs for the IESBA TAG, will be considered by the Working Group. The Working Group will also determine the specific responsibilities and priorities for the IESBA TAG.

#### **D. Participation in Moment in Time Events and Industry Conferences**

15. In progressing its work, Working Group representatives have continued to raise awareness about the Code and its relevance to technology-related issues as well as the impact of technology and ethics for PAs and the wider stakeholder community. For example, during Q4 IESBA representatives have participated or have committed to participate in a:

- Panel discussion on [Ethics for Sustainable AI Adoption: Connecting AI and ESG](#) with panelists from Association of Chartered Certified Accountants (ACCA) and Chartered Accountants Australia and New Zealand (CA ANZ) on Global Ethics Day 2021.
- Panel discussion on “Disruptive Technology and Fraud, Assurance Engagements, International Code of Ethics and Academic Research” in a [joint conference by the International Association of Accounting Education and Research \(IAAER\)](#), Taiwan Accounting Association (TAA), and National Taipei University (NTPU).
- Panel discussion on “Reimagining the profession. Are public sector organizations ready for the digital transformation?” as part of [CPA Canada’s Public Sector Conference](#).
- CPA Canada podcast discussing [whether PAs should be the voice of ethics in the Boardroom](#). In particular, the broader responsibilities faced by accountants when engaging in big picture planning and institution-wide decision making are discussed.
- CPA Canada interview on the ethics implications of the digital transformation of the profession.
- CPA British Columbia podcast on PA ethical leadership in an era of complexity and digital change.
- Panel session hosted by the Chartered Accountants Worldwide Network USA (CAW USA) and Chartered Accountants Australia and New Zealand (CA ANZ) Beyond Accounting webinar.

#### **E. Coordination with Technology Task Force and IAASB**

16. In progressing its work, the Working Group continues to liaise with the IESBA Technology Task Force and the staff of the IAASB. For example:
- Members of the Technology Task Force participated in the Working Group meetings with external presenters and Q&A sessions on technology topics.
  - Members of the Technology Task Force provided input and review comments to the thought-leadership papers that are being co-developed with CPA Canada, ICAS, and IFAC.
  - As part of its outreach efforts, the Working Group informed stakeholders of the proposed technology-related revisions to the Code being developed by the Technology Task Force, and where appropriate joint Working Group and Technology Task Force outreach efforts have been undertaken.

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<sup>8</sup> In addition to the individuals put forward by the NSS, suitably qualified individuals who participated in the Working Group’s outreach activities will also be considered.

- A joint Working Group and Task Force meeting was held in November 2021 to discuss the Working Group's comments and suggestions in relation to the proposed technology-related changes to the Code. The Task Force has considered the Working Group's input in the finalization of the proposed texts and draft explanatory memorandum (i.e., Agenda Items 7-A and 7-B of the December 2021 IESBA meeting materials).

## **V. Next Steps**

17. The Working Group will meet on November 30 and December 1, 2021 to, among other matters, begin synthesizing the input from the outreach conducted since the Working Group's establishment in March 2021.
18. The Working Group:
  - Will provide the IESBA with an update on the status of its activities in March 2022, including preliminary highlights of its fact finding.
  - Will present a preliminary draft of its report to the IESBA in June 2022.

It is anticipated that the Working Group's report will be finalized and considered by the IESBA in September 2022.

### **Desired Characteristics of a IESBA TAG Member**

- Ideal members should demonstrate a deep understanding of technological developments (including adoption timeframes of key innovations and technologies). This includes, but is not limited to, experience with technology such as Artificial Intelligence & Data Analytics, Blockchain, Cyber-security Issues, Cloud-based Services, Internet of Things, Data Governance.
- At least 2 members of the IESBA TAG will have the following characteristics:
  - Knowledgeable about issues pertaining to ethics and independence.
  - Have a good understanding of the global accountancy profession in both the private and public sectors.
  - Standard-setting experience in national, international, or sectorial contexts.
  - Understanding of the special considerations related to public interest entities, SMEs/SMPs, or public sector entities.
  - Knowledge of the IESBA's International Code of Ethics and its application.
  - Understanding of the interactions of auditing and ethics standards.
- Additional skills and attributes include:
  - Strong leadership skills, including experience with building consensus.
  - Effective communication and presentation skills.
  - Ability to look beyond the different backgrounds of members and focus on achieving common positions based on commitment to the global public interest.
  - Ability to cooperate with fellow volunteers in a constructive and productive manner.
  - Knowledge of, and experience with, issues of public policy and regulation relevant to the accountancy profession and related to ethics and codes of conduct.
  - Demonstrable track record of public interest responsibility/policy and activity/research, with desirable experience in ethical matters.

### **Overview of proposed IESBA TAG member responsibility**

- Preparing, attending, and actively participating in IESBA TAG meetings and teleconferences by reviewing agenda materials and consulting with jurisdictional stakeholders on an as needed basis.
- Advising on and/or participating in the development of non-authoritative publications and TWG-led initiatives.
- Engaging with relevant stakeholders as part of the TWG's overall program of outreach with key stakeholder groups.
- Acting in the public interest.

Time Commitment<sup>9</sup>

- Participate in all IESBA TAG meetings which might range from 2-4 times a year
- Participate in TWG/IESBA meetings on an as-needed basis

Term

- Minimum of 1 year

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<sup>9</sup> Approximately 150-200 hours per year is anticipated.