CABA Research Program
AI and Predictive Maintenance in Intelligent Buildings
Intelligent Buildings Council (IBC) Landmark Research 2021

REQUEST FOR PROPOSAL (RFP)

Closing Date:	**April 23, 2021**
Time:	**4 PM ET**

Title of Project – AI and Predictive Maintenance in Intelligent Buildings

CABA Contact – Greg Walker
Senior Director, Research Operations
613.686.1814 ext. 227, walker@caba.org

CABA Address – Continental Automated Buildings Association (CABA)
1173 Cyrville Road, Suite 210
Ottawa, ON, K1J 7S6
Web site: http://www.caba.org

Contents

You are invited to submit a proposal for the project named above.

1. PROPOSAL

1.1 Your proposal must contain the following information:

a) Evidence of your company's ability to carry out such a project and a statement indicating your understanding of our requirements.

b) The estimated time required to complete the project.

c) A detailed cost breakdown identifying the number of days (except if specified otherwise in Appendix A - Terms of Reference/Prospectus).

1.2 Your proposal should also contain the following statements indicating your agreement to them:

a) “We hereby offer to sell and/or supply to the Continental Automated Buildings Association (CABA), for terms and conditions set out herein, the supplies and/or services listed herein and/or any attached sheets at the price(s) set out therefore.”

b) “We hereby certify that the price quoted is not in excess of the price charged anyone else, including our most favored customer, for like services.”

2. INSTRUCTIONS FOR SUBMITTING A PROPOSAL

2.1 Your formal proposal must be prepared and submitted as two (2) separate documents and **must be received by Greg Walker, walker@caba.org, by email only before the Closing Date/Time**. Greg Walker, CABA Senior Director, Research Operations, will provide email confirmation that the RFP proposal has been received. Contact the CABA Senior Director, Research Operations if a confirmation email is not received within 24 hours of emailing your submission. The two (2) required documents are:

(a) **One (1) copy of the Technical Proposal** in **PDF format**.

(b) **One (1) copy of the Financial Proposal** showing the costs and proposed basis of payment, in **PDF format** (Please refer to the mandatory requirements listed in of the RFP).

2.2 The proposal must be organized in an identical fashion to the RFP document. It must reference the same section, sub-section, paragraph numbers and items, as the RFP document, where applicable.

Where the supplier indicates "compliance" in the proposal, it should refer to the respective clauses of the RFP.

2.3 Please ensure that the label identified below appears on all cover pages of the PDF files contained in your proposal. Failure to do so may lead your tender to be disqualified.

Attn: Greg Walker
Continental Automated Buildings Association (CABA)
1173 Cyrville Road, Suite 210
Ottawa, ON, K1J 7S6

AI and Predictive Maintenance in Intelligent Buildings
CLOSING DATE
April 23, 2021
4:00 PM ET
FROM: "COMPANY NAME"

3. CONDITIONS OF PROPOSAL

3.1 Proposals received after the closing time and date shown may be disqualified and not considered further.

3.2 Any proposal may be rejected or accepted in whole or in part.

3.3 Payment will be made only in U.S. dollars (USD) unless otherwise specified.

3.4 It is understood that your proposal will remain open for an acceptance period of not less than **60 days** from the closing date of proposal, unless otherwise indicated herein.

3.5 If applicable, the price quoted is inclusive of federal, state or provincial taxes.

4. NOTICE TO BIDDERS

The following terms and conditions **may** apply to this solicitation:

4.1 Vendors may be required to provide, prior to contract award, specific information with respect to their legal and financial status, and their technical capability to satisfy the requirement as stipulated in this solicitation. The vendor will be notified by CABA shortly after the RFP submission if this information is needed, the vendor will have five (5) business days to provide this supplementary information if needed.

4.2 a) For **Canadian-based bidders**, prices must be firm and stated in **USD** with all applicable taxes **INCLUDED**.

b) For **Non-Canadian bidders**, prices must be firm and stated in **USD** and **EXCLUDE** Canadian customs duties, excise taxes (if applicable) and Harmonized Sales Tax (HST).

4.3 Bid documents and supporting information must be submitted in English only.

4.4 The submission shall in all respects be governed by, and construed in accordance with, applicable municipal, state/provincial, and federal law.

4.5 **Bidders may submit two different methodology and fee options in the same bid.** For example, one option may have a larger scope and higher cost while the other option may have a smaller scope and lower cost.

4.6 It is essential that the elements contained in the proposal be stated in a clear and concise manner. Failure to provide complete information as requested will be to the bidder's disadvantage.

4.7 Proposals should be submitted in the format requested. CABA, through the Steering Committee, reserves the right to accept any proposal as submitted without prior negotiations. It is the responsibility of the bidder to obtain clarifications of the requirements contained herein, if necessary, prior to submitting its proposal.

4.8 You are reminded that there will be no payment by CABA for any costs incurred in the preparation and submission of proposals and **CABA reserves the right to negotiate changes on the proposals** or to cancel the requirement at any time.

5. ENQUIRIES - SOLICITATION STAGE

All enquiries regarding the solicitation must be submitted to Greg Walker, CABA Senior Director, Research Operations, by email to **walker@caba.org** as early as possible within the offer period. Enquiries will be addressed to the Senior Director, Research Operations from **March 30, 2021 to April 22, 2021 (inclusive)**, to allow sufficient time to provide a response. Any enquiries should quote "**CABA Request for Proposal**" in the correspondence subject line of the email. Enquiries received after that time may not be able to be answered prior to the closing date of the RFP.

6. INSPECTION

The services provided are subject to inspection and acceptance by CABA and/or the Steering Committee.

7. PROPOSED BASIS OF PAYMENT

7.1 The proposed Basis of Payment is to be submitted in the financial proposal and must include the following elements:

A firm, all-inclusive progress payment in **USD** for services:

a) Harmonized Sales Tax (HST);

b) Withholding Tax of 15 per cent (if applicable); and

c) Exchange-Rate Fluctuation.

7.2 Method of Payment

Progress payments will be made provided that:

a) Invoices are submitted according to an agreed schedule in the contract of the selected vendor, between the vendor and CABA; and

b) Work performed has been to the satisfaction of the Steering Committee and CABA and been accepted.

8. BASIS OF SELECTION

It is understood by the parties submitting proposals that, to be considered valid, a proposal must meet all mandatory requirements specified herein. Proposals not meeting all the mandatory requirements will not be given further consideration.

9. CERTIFICATION:

9.1 We hereby certify that all the information provided in all the attached biographies/resumes, particularly as this information pertains to educational achievements, experience, and work history, has been verified by us to be true and accurate. Furthermore, we hereby certify that, should we be awarded a contract and unless CABA is notified in writing to the contrary, the personnel offered in our proposal shall be available to perform the tasks described herein, as, and when required by the project authority. CABA and the Steering Committee must approve all new personnel working on the research that were not listed in the RFP submission.

9.2 We hereby recognize and certify that CABA will be **<u>the owner</u>** of the final deliverables and that no revenue-sharing arrangements on subsequent report sales will be made with the selected consultancy/research vendor.

9.3 Bidders are required to provide relevant and applicable biographies for each of the personnel to be utilized for the work to be undertaken under any resulting contract. These biographies must clearly indicate beyond any doubts that the qualifications of such personnel meet the requirements specified in the Statement of Work. FAILURE TO DO SO WILL DISQUALIFY THE PROPOSAL.

9.4 In addition to providing the core group, the vendor must demonstrate that it can call upon sufficient back-up personnel who meet the mandatory requirements of this proposal should it be required.

10. SCHEDULE AND DELIVERABLES

CABA and the Steering Committee are interested in a project that will take place over a relatively short time, including an introductory webinar (1 hour) and Question-and-Answer session with potential project funders, provided by the vendor on a date selected by CABA, a minimum of one (1) week notice will be given to the vendor unless otherwise agreed upon. The project will officially commence with the study kick-off meeting (date to be decided, TBD) with the Steering Committee, and proceed through the release of six (6) draft documents (Full Report in Microsoft Word format, Executive Summary in Microsoft Word format, Full Report Presentation in Microsoft PowerPoint format, Executive Summary Presentation in Microsoft PowerPoint format, Raw Data in Microsoft Excel Format and infographics), the release of six (6) final documents (Full Report in Microsoft Word and PDF formats, Executive Summary in Microsoft Word and PDF formats, Full Report Presentation in Microsoft PowerPoint format, Executive Summary Presentation in Microsoft PowerPoint format, Raw Data in Microsoft Excel Format and infographic, a "Final Webinar" (2 hours) to all the research funders, "Organizational Webinars" (1 hour each) to each Steering Committee organizations, a (1-2 Hour) "Thank Tank Webinar", and an "Industry Webinar" (1 hour) to CABA contacts following the four (4) month embargo period. The vendor must paginate all final documents in the format and style provided by CABA.

REF Schedule:

- RFP finalized and sent to vendors – **March 30, 2021**
- Proposals due from vendors – **Friday, April 23, 4 PM ET, 2021.**
- Top two (2) selected short-listed vendors notification, both the vendors selected and those not selected will be notified **– April 30, 2021.**
- Top two (2) short-listed vendors participate in a webinar with the initial Steering Committee, Council Executive Committee and CABA to review scope of work and objectives. Only the Technical Proposals will be presented, and no elements of the Financial Proposals will be part of the presentation **– Date TBD.**
- Selected vendor notified by the CABA Senior Director, Research Operations, both the vendor that is selected and those not selected will be notified **– Date TBD.**

Project Deliverables:

In achieving project deliverables for the Research Project, the vendor will provide the following specific items to CABA, the Steering Committee and other project funders:

10.1 "Introductory Webinar" (1 hour) prior to the first Steering Committee meeting to inform potential funders of the research. This webinar will be recorded and the contact information of all that registered will be provided to CABA.

10.2 "Kick-off Webinar" (1 hour) to the Steering Committee to outline the research purpose, scope, objectives, approach, and timelines. This webinar will be hosted and recorded by the vendor. Contact information of webinar attendees will be recorded by vendor and shared with CABA. The Final Project Deliverables are to be completed in an eighteen (18) week period, from the date of the Kick-off Webinar.

10.3 Regular Steering Committee (1 hour) meetings, when deemed necessary (approximately every 3 - 4 weeks), with CABA, the Project Manager and the Steering Committee to develop the project, provide reporting of progress, review findings, update milestones, and to address project needs and secure appropriate approvals of the study funders. The vendor will provide the Project Manager with meeting agendas, meeting minutes, meeting attendance and presentation materials, where/when applicable. The vendor will organize the logistics of the meetings for the Steering Committee and CABA.

10.4 The vendor will respond to requests by individual Steering Committee members for additional information via conference or webinar calls. Any new CABA contacts that join Steering Committee meetings or any of the webinars will be provided to CABA (name, email, etc.).

10.5 Delivery of six (6) documents, provided by the vendor. The vendor must paginate all final documents in the format and style provided by CABA.

(1) Full report (Microsoft Word format)
(2) Executive summary (Microsoft Word format)
(3) Full report presentation (Microsoft PowerPoint format)
(4) Executive summary presentation (Microsoft PowerPoint format
(5) Raw Data (Microsoft Excel format)
(6) Four (4) or more infographics of key data from the research

10.6 "Final Webinar" (2 hours), provided by the vendor, will be presented to all the funders (unlimited attendance) after the final documents have been delivered. This webinar will be hosted and recorded by the vendor. Contact information of webinar attendees will be recorded by vendor and shared with CABA. Vendor must use the PowerPoint template provided by CABA.

10.7 "Organization Webinars" (1 hour) for each organization on the Steering Committee, with unlimited attendance per organization. These webinars will be presented after the final documents have been delivered to the funders. Steering Committee members have one (1) month to arrange for these presentations with the vendor. These webinars will be hosted and recorded by the vendor. Contact information of webinar attendees will be recorded by vendor and shared with CABA.

10.8 "Industry Webinar" (1 hour) will be provided just prior to the embargo period ending. The embargo period ends four (4) months after the Final Webinar. This webinar will be recorded and all contact info (name, email, etc.) of those registered will be shared with CABA.

10.9 "Think Thank Webinar" (1 - 2 hour) will be provided to the Steering Committee contacts. This Think Tank will not be reviewing the findings of the research but rather be discussing what the findings mean to the industry and what actions CABA and the industry should be taking. Each of the Steering Committee Organizations below can have up to three (3) individuals attend this meeting.

10.10 An optional event presentation(s) (locations to be determined) on the Research Project will take place following the embargo period. This presentation(s) will take place at one or more industry events, an invite will be provided by CABA. All costs associated with the presentation(s) shall be the responsibility of the vendor. <u>This deliverable is optional for the vendor</u>.

Before the final project deliverables are approved, they will be deemed as draft documents, and subject to revision and approval of the Steering Committee.

Teleconference and webinar capabilities, where and when applicable for meetings and presentations. Recording capabilities will be provided. All meeting minutes will be recorded by the vendor.

The timeline will be developed by the vendor and approved by the Steering Committee and CABA.

All deliverables listed in the RFP including all targets and goals listed in the RFP submission are considered mandatory deliverables for the research.

11. EVALUATION CRITERIA

All mandatory requirements must be met, to warrant further evaluation. A minimum technical rating of **70 points has to be met in order to proceed to the next evaluation level**. These proposals will then be financially evaluated, and an **additional maximum 30 points will be added to the technical rating**, and the top two (2) selected vendors obtaining the best overall points (technical points + financial points) will be asked to discuss the research scope and objectives with the Steering Committee and CABA via the short-listed vendors webinar (date TBD).

Technical Proposal Points:	**Maximum**	**100**
Financial Points:	**Maximum**	**30**
TOTAL MAXIMUM POINTS:		**130**

12. MANDATORY REQUIREMENTS

12.1 Maximum Page Limit Requirements

RFP Submission Section	Maximum Number of Pages (or Slides)
Technical Proposal – Introduction/Legal/Other (Include statements from Section 1.2)	1
Technical Proposal – Personnel Biographies	2
Technical Proposal – About Research Organization (Experience, sample research, clients, etc.)	2
Technical Proposal – Methodology (Sample size, target groups, timeline, etc.)	2
Technical Proposal – Appendix A: Signed RFP	NA
Technical Proposal – Appendix B: Sample Research (Whole or partial research)	NA
Financial Proposal (Provided as a separate document, include statements from Section 1.2, reference Technical Proposal)	2

To receive consideration by CABA, proposals **MUST** respond to the following mandatory requirements **IN THE ORDER SHOWN** and **MUST** include the referenced Section/Page in Bidder's proposal. Any proposal that fails to indicate clearly that all mandatory requirements have been met will receive no further consideration.

RFP Reference	Requirement (Bidder's proposal should repeat exactly as defined in the RFP)	Referenced Section/Page (or Slide) In Bidder's Proposal
12.2	Evidence of knowledge and experience of personnel of current theory and practice in the Intelligent Building discipline by providing short relevant biographies of all personnel who it is proposed will participate in the project. The vendor's project leader must have a minimum of 10 years relevant experience.	
12.3	Evidence of previous experience in the Intelligent Building discipline by providing examples of relevant projects prepared for three (3) separate clients within the preceding 48 months. References may be required from these three (3) clients, only if requested by CABA. References are normally not required.	
12.4	A summary of how the vendor proposes to perform the project and the relevant experience of the proposed staff.	
12.5	**Identify the sample size of both the interviews and surveys.**	
12.6	Acceptance of deliverables as identified in the Terms of Reference/Prospectus and proposed schedule.	
12.7	**The vendor must be a member of CABA or agree to become a member of CABA (US$850)** (before the RFP is reviewed).	
12.8	**RFP Signature** - Bidders must complete, sign (end of Section 17) and return this RFP form prior to the closing date.	
12.9	**Costs must be in $USD**. A fixed price including a full cost breakdown as per Section 16, "Financial Proposal" must be provided.	
12.10	The Financial Proposal must be submitted as a separate package (PDF document) to the Technical Proposal **(NO FINANCIAL INFORMATION MAY APPEAR IN THE TECHNICAL PROPOSAL)**.	

13. RATED REQUIREMENTS

To qualify for the rating process, proposals **MUST** respond to the following rated requirements **IN THE ORDER SHOWN** and **MUST** include the referenced Section/Page in the Bidder's proposal. To be further evaluated, the proposed bidders **MUST** achieve an overall minimum technical rating of 70 points.

RFP Reference	**Requirement (bidder's proposal should repeat exactly as defined in RFP)** **Technical Rating**	**Points**		**Referenced Section/ Page in Bidder's Proposal**
		Max.	**Min.**	
13.1	The methodology section of the proposal will be an analysis of: • How the proposal will achieve the stated objectives • The breadth and depth of the proposed work • Effectiveness of the methodology • The innovativeness of the approach • Ability to reach non-traditional stakeholders • The understanding of the issues pertinent to the project • Include the sample size for both the surveys and in-depth interviews • Include the proposed segmentation of the sample groups (surveys and in-depth interviews) • The ideal project will have a North American focus (both Canada and the United States) • *Optional: Additional related research reports, research subscriptions or other material may be used to strengthen the proposal.*	40		
13.2	The relevant knowledge and experience of the vendor's proposed staff in the Intelligent Building field and in performing studies of this nature. The vendor must indicate the proposed involvement of the senior staff assigned to the project.	20		
13.3	The vendor's previous experience in the Intelligent Building sector and in conducting research projects requiring consultation with a broad cross-section of the industry. Previous research will be reviewed.	20		
13.4	Corporate profile demonstrating a convincing record of fulfilling contracts on time and on budget, depth of personnel capability and other resources.	10		
13.5	The vendor's knowledge of the Intelligent Building industry both in North America and worldwide (if applicable).	5		
13.6	Timetable, including interim and final stages.	5		
	TOTAL TECHNICAL POINTS:	**100**	**70**	
13.7	**Financial Rating** – Total price and detailed cost breakdown. **TOTAL FINANCIAL POINTS:**	**30**		

14. VENDOR SELECTION WEBINAR

CABA will invite two (2) selected vendors that have obtained the highest combined technical (over 70 points minimum) and financial rating to discuss their proposal **by webinar with CABA, the Council Executive Committee and any member of the Steering Committee, date TBD, a minimum of one (1) week notice will be given to the vendors unless otherwise agreed upon.** The selected vendors will be asked to present their proposal and answer questions necessary to support elements of their proposal in Section 14 "Rated Requirements", and to work with CABA, the Council Executive Committee and the Steering Committee to achieve optimization of project scope and research objectives in accordance with the available project budget. This webinar will be only by invitation of CABA.

15. FINANCIAL PROPOSAL

The total cost of the project **must be stated in $USD** including applicable taxes, travel and other expenses. Proposals not stated in $USD may be rejected, or not be evaluated. Award of the project contract **is based on a competitive bidding process amongst vendors but will not be based on cost alone**. The contract will normally only be awarded to one (1) vendor **deemed to offer the best value for the total cost of the project**, as decided by CABA, the Council Executive Committee and members of the Steering Committee. **More than one (1) vendor can be selected if a joint proposal is submitted and selected**.

The Financial Proposal is to be submitted as a separate package to the Technical Proposal and will be further assessed only if the technical portion of the bidder's proposal is considered to meet all the mandatory requirements.

CABA, through the Steering Committee, maintains the right to charge penalties for late delivery of the project. Such penalties will be recovered from final payments owing upon conclusion of the project. Final payment will be contingent upon CABA's satisfaction with the deliverables. It is recognized that CABA will be the owner of the final deliverables and that no revenue sharing arrangements on subsequent report sales will be made with the selected research vendor.

A full cost breakdown must accompany each proposal. Bidders are asked to please provide a broad breakdown of the quotation between direct costs and professional fees. Include all costs in the firm quotation, including respondent incentives, administrative fees, etc. Costs must be broken down as follows:

Project costs: the proposed bidder **MUST** provide:

- The cost of individual project components to support the selected conceptual design, methodology, meetings, presentations, and reporting (i.e., design, analysis, sampling, interviewing/field, regular Steering Committee meetings, presentations, etc.). All component costs must be aggregated to a sub-total cost.

Personnel costs: the proposed bidder **MUST** provide:

- Estimated time allocations for each team member – indicating their level: Principal, Senior, Junior, Analyst, etc.
- All other expenses – broken out in detail (travel, presentations, report production, meetings, etc.); and
- All component costs must be aggregated to a sub-total cost.

Other Cost Considerations: It is expected that the vendor **will provide the webinar services** for Steering Committee meetings and research presentations. The final research presentation must be two (2) hours, by webinar. The vendor may choose to host a "face-to-face" meeting for the final research presentation, complete with webinar capabilities for remote attendees. The webinar of final research findings should take place at least one (1) week after the final research report is completed. The vendor will share the contact information of the attendees with CABA.

Project costs and personnel costs must be summed to show a final **TOTAL PROJECT COST.**

BIDDERS MUST PROVIDE A FIXED COST FOR THE PROJECT.

16. AWARDING OF CONTRACT

As this project is based on a competitive bidding process, only one (1) contract will be awarded, and it will be offered to the bidder whose proposal is deemed by the Steering Committee, Council Executive Committee and CABA to provide the best value. More than one (1) vendor can be selected if a joint proposal is submitted and selected.

Should the total cost of the selected vendor's proposal exceed the available total project budget, CABA and the Steering Committee may work with the vendor to achieve optimization of project scope, research objectives and methodology in accordance with the available project budget.

Once the project is awarded, the vendor and CABA will work together to create an official contract. This contract will be signed by both the vendor and CABA prior to the commencement of the research project.

Important Guide: Given the collaborative nature of the research, participation and funding levels of previous Landmark Research studies have allowed for a total budget of between $80,000 - $90,000 USD. This will be the estimated budget for this research project. We encourage prospective bidders to be creative in deriving their scope, objectives, and cost of the research to provide maximum value.

Signature of Authorized Company Official: ______________________________

______________________ **(Print Name)**

______________________ **(Date)**

17. APPENDIX A - TERMS OF REFERENCE/PROSPECTUS

CABA
Intelligent Buildings Council

CABA
Research Program

CABA Research Program
AI and Predictive Maintenance in Intelligent Buildings
Intelligent Buildings Council (IBC)
Landmark Research 2021

PROSPECTUS

1. BACKGROUND

The Continental Automated Buildings Association (CABA) is an industry association dedicated to the advancement of connected home and intelligent building technologies. CABA is an international association, with over 380 major private and public technology organizations committed to research and development within the intelligent building and connected home sectors. Association members are involved in the design, manufacture, installation and retailing of products for home and building automation. CABA is a leader in initiating and developing cross-industry collaborative research, under the CABA Research Program.

CABA has two (2) Councils, the Connected Home Council (CHC) focusing on residential homes and the Intelligent Buildings Council (IBC) focusing on commercial buildings. Each Council produces one (1) collaborative "Landmark Research" project per year, which is fully funded by CABA members. These projects are approximately US$130,000 in scope. Each Landmark Research project is directed by a Steering Committee made up of the project funders. The Steering Committee provides feedback and input throughout the course of the research to help define the scope, direction, and methodology. CABA and the project Steering Committee commission a research firm vendor to conduct the research, while CABA provides project management and leadership.

The intelligent building market is a fast-evolving industry segment that is being influenced by several emerging industry trends and pressing "hot button" issues. CABA members were surveyed to get input on potential topics for the next IBC Landmark Research project for 2021, the top three (3) topics from this survey were reviewed by the CABA Board of Directors. "AI and Predictive Maintenance in Intelligent Buildings" was selected as the IBC Landmark Research topic for 2021.

2. PURPOSE OF THE RESEARCH

The purpose of this research is to examine various aspects of predictive maintenance and artificial intelligence in the intelligent building industry. The research will also develop recommendations for stakeholders on how they can best position themselves in this evolving intelligent building landscape.

3. RESEARCH VENDOR QUALIFICATIONS

Overarching criteria will be determined by the Steering Committee, Council Executive Committee and CABA, via competitive bid criteria and process. At a minimum, the research firm vendor will have a history of working and conducting research relating to intelligent buildings.

4. STRATEGIC VALUE OF THE STUDY

The outcomes of this collaborative research project should provide the Steering Committee members a clearer understanding of the connected home landscape and the opportunities and solutions available to drive revenues. This study will assist organizations to make sound business decisions using reliable third-party qualitative and quantitative data.

5. PROJECT SCOPE

This research will utilize both industry expert interviews and consumer surveys to examine all the major aspects of predictive maintenance and artificial intelligence in intelligent buildings. Some of the topics that will be covered include implementation, return on investment (ROI), continuous fault detection, integration, real-time monitoring, cybersecurity and privacy, data management, use cases, a business case analysis for predictive maintenance and artificial intelligence, and specific opportunities and recommendations for all key industry players.

This new research will address the many challenges and opportunities that exist around artificial intelligence. It will utilize both qualitative (in-depth interviews) and quantitative (consumer or industry questionnaires) methods to provide actionable data relevant to the state of the market, key industry players business opportunities, technical barriers and opportunities, future market direction, issues, use cases, and industry recommendations.

Topics that are expected to be covered in this research include:

- ROI of predictive maintenance
- Reducing safety concerns of emergency repairs
- Use case analysis
- Warranty claim cost reduction with predictive maintenance
- What are the pain points from a maintenance perspective?
- The role of sensors

- The technological advances in predictive maintenance and continuous fault detection
- Predictive maintenance implementation strategies
- Market analysis and forecast
- Data management and analytics
- Cybersecurity and privacy

Disclaimer: The above list of topics is meant to serve as a general outline for this research project. The final research may not address all the topics outlined above, and additional topics may be added. The scope of the final research will be narrowed down or expanded further in the RFP submission process, and later by the Steering Committee. The research scope and prospectus are designed to be only a general outline, this allows for more freedom and creativity in the RFP submissions.

6. STUDY APPROACH and RESEARCH METHODOLOGY

This Landmark Research will leverage several different methodologies to maximize the value of and validate the deliverables.

Review and Analyze Existing Applicable Industry Research:

The research will leverage relevant industry research and thought leaders to create a base from which the Steering Committee and research firm vendor can begin to develop concept hypotheses for testing.

Methodologies to be considered for opportunity identification and vetting:

Qualitative Research (in-depth interviews) and Quantitative Research (consumer or industry questionnaires) will be used.

7. PROJECT DELIVERABLES

In achieving project deliverables for the Research Project, the vendor will provide the following specific items to CABA, the Steering Committee and other project funders:

7.1 "Introductory Webinar" (1 hour) prior to the first Steering Committee meeting to inform potential funders of the research. This webinar will be recorded and the contact information of all that registered will be provided to CABA.

7.2 "Kick-off Webinar" (1 hour) to the Steering Committee to outline the research purpose, scope, objectives, approach, and timelines. This webinar will be hosted and recorded by the vendor. Contact information of webinar attendees will be recorded by vendor and shared with CABA. The Final Project Deliverables are to be completed in an eighteen (18) week period, from the date of the Kick-off Webinar.

7.3 Regular Steering Committee (1 hour) meetings, when deemed necessary (approximately every 3 - 4 weeks), with CABA, the Project Manager and the Steering Committee to develop the project, provide reporting of progress, review findings, update milestones, and to address project needs and secure appropriate approvals of the study funders. The vendor will provide the Project Manager with meeting agendas, meeting minutes, meeting attendance and presentation materials, where/when applicable. The vendor will organize the logistics of the meetings for the Steering Committee and CABA.

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7.5 Delivery of six (6) documents, provided by the vendor. The vendor must paginate all final documents in the format and style provided by CABA.
(1) Full report (Microsoft Word format)
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(5) Raw Data (Microsoft Excel format)
(6) Four (4) or more infographics of key data from the research

7.6 “Final Webinar” (2 hours), provided by the vendor, will be presented to all the funders (unlimited attendance) after the final documents have been delivered. This webinar will be hosted and recorded by the vendor. Contact information of webinar attendees will be recorded by vendor and shared with CABA. Vendor must use the PowerPoint template provided by CABA.

7.7 “Organization Webinars” (1 hour) for each organization on the Steering Committee, with unlimited attendance per organization. These webinars will be presented after the final documents have been delivered to the funders. Steering Committee members have one (1) month to arrange for these presentations with the vendor. These webinars will be hosted and recorded by the vendor. Contact information of webinar attendees will be recorded by vendor and shared with CABA.

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7.10 An optional event presentation(s) (locations to be determined) on the Research Project will take place following the embargo period. This presentation(s) will take place at one or more industry events, an invite will be provided by CABA. All costs associated with the presentation(s) shall be the responsibility of the vendor. This deliverable is optional for the vendor.

8. PROPOSED TIMELINE

Timeline details will be finalized during the initial planning session by a selected research firm vendor, CABA and the Steering Committee. This timeline is tentatively based on the scope of the project as defined in this document. Depending on the breadth of agreed specification, estimated project duration is 18-22 weeks, from prospectus development to final report delivery. Steering Committee members will be asked to provide valued input to project development. The selected research firm vendor, in conjunction with CABA, will prepare detailed timelines, project milestones, responsibilities, and action/delivery dates as agreed by the Steering Committee. Bi-weekly webinars with the Steering Committee will serve to keep funders abreast of progress, developments, and key findings. The following outline may be adjusted, pending confirmation of tasks and timing:

IBC Landmark Research 2021: AI and Predictive Maintenance in Intelligent Buildings DRAFT/ESTIMATED	
Activity	**Anticipated Date**
Research set-up and kick-off meeting	TBD
Secondary research	TBD
Primary research	TBD
Analysis and reviews	TBD
Draft report delivery	TBD
Final report delivery	TBD
Final Webinar (2 hours). A group webinar for all the funding organizations.	TBD
Organizational Webinars (1 hour each). One webinar for each organization on the Steering Committee.	TBD
Think Tank Webinar (1 - 2 hour). A group webinar for all the Steering Committee funders. Occurs after the organizational webinars.	TBD
Industry Webinar (1 hour). To all CABA contacts to present the high-level executive summary findings only. This occurs after the four (4) month embargo period.	TBD
Industry Workshop	TBD

9. PARTICIPATION OPPORTUNITIES

Titanium Funder ($1K):

- Name and logo will be placed on the front page of the research report, slide deck, banners, media releases, and marketing material.
- Following the four (4) month embargo period the full research can be purchased at a $1K discount.
- Executive summary report (not the full research).

Bronze Funder ($5K):

- All benefits of the Titanium Funder.
- Full research report, executive summary, presentations, and raw data.
- Opportunity to participate in the final webinar with all the funders which will highlight the findings of the research in detail.
- Ability to ask the questions to the research analysts.

Silver Funder ($10K) – Most Common Level:

- All benefits of the Bronze Funder.
- Will be on the Steering Committee and allowed to: define the research scope and methodology, provide feedback and input regarding the direction of the study, and participate in Steering Committee webinars.
- Will have a special one (1) hour webinar specifically for your organization. Anyone from your organization can attend and receive a detailed overview of the research findings that relate to your organization.
- Invitation for one (1) representative to the special “Think Tank” webinar.

Gold Funder ($15K):

- All benefits of the Silver Funder.
- Will receive a case study within the research to highlight the work your organization has been doing in the area. Case studies are typically supplied by the funder, but in some instances research firms have developed case studies on the funder’s behalf.
- The case study will be included with the executive summary, which will be distributed to all CABA member contacts.

Note: All funds are in US dollars.

10. PREVIOUS CABA RESEARCH

CABA has undertaken several Landmark and Multi-Client Boutique research projects. To better understand the intelligent building research that CABA has completed, please review the following executive summaries in the CABA Members Library, http://www.caba.org/member-research-library:

CABA Intelligent Buildings and COVID-19 (2021)

CABA Intelligent Building Energy Management Systems (2020)

CABA Monetization of Intelligent Buildings (2018)

CABA Intelligent Buildings Design Implementation (2018)

CABA Intelligent Buildings and the Impact of IoT (2017)

CABA Improving Organizational Productivity with Building Automation Systems (2017)

CABA Connected Multi-Dwelling Units and the Internet of Things (2017)

CABA Intelligent Buildings and Cybersecurity (2016)

CABA Zero Net Energy Building Controls (2015)

CABA Intelligent Buildings Market Sizing North America (2015)

CABA Intelligent Buildings and Big Data (2015)

If you do not have access to the CABA Members Library, please contact CABA to receive your passcodes.

11. CONTACT INFORMATION:

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