



REQUEST FOR APPLICATIONS (RFA)

RFA SOLICITATION NUMBER: FY18-RFA02-5007-010

**Data Collection and Analysis Services for the
USAID Human Resources for Health in 2030 (HRH2030) Project
Through University Research Co., LLC**

Date of Issue: Thursday, May 10, 2018

Closing Time and Date for Applications:

17:00 Hrs. East African Standard Time (EAT) on Friday, May 25, 2018

Applications must be emailed to: hrhassessments@urc-chs.com

No hard copies of Applications will be accepted

Deadline for Questions: 17:00 Hrs. EAT on Wednesday, May 16, 2018

Questions by email ONLY by to: hrhassessments@urc-chs.com

Issuance of this RFA does not constitute a contractual commitment on the part of URC (the "Client"), nor does it commit URC or the US Government to pay for costs incurred in the submission of an Application. All costs of the Applicant in the preparation and submission of an application shall be borne by that Applicant. URC reserves the right to reject any and all applications and to make no award at all, or to make an award without further discussion or negotiations if it is considered to be in the best interests of the HRH2030 project and URC.

TABLE OF CONTENTS

1. CONTEXT
2. PURPOSE OF RFA
3. ACTIVITIES
4. DELIVERABLES
5. TIMING, MILESTONES AND PERFORMANCE TARGETS
6. AWARD
7. ELIGIBLE CANDIDATES
8. SUBMISSION GUIDELINES FOR APPLICANTS
9. INSTRUCTIONS FOR APPLICANTS
10. EVALUATION CRITERIA FOR APPLICATIONS
11. SUBMISSION INSTRUCTIONS

I. CONTEXT

For over 50 years, the United States Agency for International Development (USAID) has been a vital supporter of global- and national-level efforts to improve the health workforce in low- and middle-income countries. The USAID-funded Human Resources for Health in 2030 (HRH2030) program, managed by Chemonics International Inc., builds on USAID's investments to improve the health workforce. HRH2030 contributes to increasing the sustained availability, accessibility, acceptability, and quality of the health workforce.

The adoption of the "Test and Start" strategy to accelerate the achievement of the UNAIDS 90-90-90 goals to end AIDS by 2020 has enabled a growing number of people living with HIV (PLHIV) to receive antiretroviral therapy (ART) and achieve viral suppression. However, a rapid increase in the number of clients on ART as a result of these initiatives requires streamlined service delivery approaches to combat health systems constraints, one of which is the shortage of human resources for health (HRH) for delivering needed services in the highest HIV burden countries.

Working alongside public health facilities, community-based services are critical to the effectiveness and sustainability of the global response to HIV including "Test and Start." Community-based health and social service workers are an integral part of the differentiated models of care for ART delivery and achieving the 90-90-90 targets. This workforce spans both the health and social sector and is composed of community-based workers supported through government departments and those that are predominately supported through donor funded initiatives. The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and the Global Fund to Fight AIDS, Tuberculosis, and Malaria (GFATM) support many in-country community-based workers for the delivery of HIV care and treatment, including tuberculosis (TB) and services for orphans and vulnerable children (OVC). Particularly in high burden/high prevalence countries, community-based workers (CBWs) are expected to be major contributors to identifying new HIV cases and advancing the utilization of out-of-facility differentiated care models for antiretroviral therapy (ART).

While CBWs have shown promise and have grown in numbers and titles over the last decade, challenges exist which affect the optimal use of this workforce. There has been a proliferation of cadres designed to fill specific niche areas within the overall HIV response, resulting in an often-fragmented workforce, not designed to operate as a unit. The workload supported by this workforce is not well quantified or documented, which can result in lack of recognition and underestimation of the contribution, or worse, assumptions being made about utility. Identifying how to strengthen the linkages between and across social service workers supporting OVC programs and community-based health workers supporting HIV and TB services may guide program efficiencies and increase impact for targeted youth and adolescent age bands. Additionally, the recent TB prevalence survey in Kenya noted a higher than expected number of unidentified, and thus untreated, suspected TB cases. Linking services across the HIV, TB and OVC spectrum will lead to greater efficiency for patients and the system as a whole and improved public health outcomes.

In Kenya, there are many CBWs supporting HIV, TB and social services including: community health volunteers, community health extension workers, mentor mothers, peer educators and facilitators, adherence counselors, expert clients, link persons, adolescent champions, outreach workers and others. HIV-related specific roles for these CBWs in the Kenyan context include creating demand for and conducting HIV testing services (if appropriately trained), dispensing ART refills from community-pick up points for stable patients on ART that are decanted from facility-based treatment, facilitating patient adherence clubs, providing individual adherence counseling and tracing defaulters, referring and linking clients from the community to the facility and vice-versa, conducting home visits for OVC and for direct observed therapy for TB patients, and promoting the uptake of viral load testing.

Within the Ministry of Health both the National AIDS and STI Control Programme (NAS COP) as well as the National AIDS Control Council (NACC) and the national TB program, have identified the utility of community-based workers to advance the national response. The Ministry of East African Community, Labour and Social Protection (MEACLSP), State Department for Social Protection, Department of Children's Services oversees support and services for OVC. With the advent of devolution under the county structure brought about after the 2010 Constitution was adopted, human resources, particularly in health, are managed at the county level and many have bought into the need to formalize community health workers. Still the response at this level has been patchy and while the management of clinical human resources has moved forward, and transition plans established in some cases (from development partner to county), this has largely not occurred for community-based personnel. Within the State Department for Social Protection are social protection officers at both the County and District level. However, their resources are finite and their ability to coordinate the myriad of services covered by their offices are challenged, further complicating any effort to increase their staffing numbers through transition of existing development partner funded personnel.

The USAID HRH2030 program intends to conduct an assessment and mapping exercise of community-based health and social service workers in selected counties in Kenya. The goal of this activity is to assess the composition, workload, and functions performed by the community-based health and social service workforce supporting HIV, TB and OVC programs in order to increase opportunities for efficiency gains across programs.

This activity will examine strengthening the linkages and referrals between OVC activities and HIV and TB testing and treatment initiatives to guide program efficiencies and will also help to identify innovations introduced by government and development partners to improve how CBWs support HIV TB and OVC service delivery that can be further scaled-up and/or included within ongoing health system reform efforts in the context of implementing the Kenya Strategy for Community Health 2014-2019 and universal health coverage (UHC).

The specific objectives of the activity are to:

- Develop an inventory assessing the characteristics and roles of community-based workers providing HIV, TB and OVC services in Kenya
- Identify options for optimization and efficiency across CBWs to yield HIV, TB and OVC service delivery gains
- Identify sustainability factors to consider when expanding roles of assessed CBWs for HIV, TB and OVC service delivery
- Identify opportunities for strengthening linkages between community-based social service and health workers especially for programs targeting high risk youth and adolescents

This activity will help NAS COP, NACC, MEACLSP, PEPFAR and the GFATM to better understand the array of community-based workers currently operating and where there are potential efficiency gains through greater coordination and collaboration. Additionally, plans, likely at the county level, for absorbing any community-based workers could be discussed and at a minimum the assessment will serve as an opportunity to capture the numbers, types and location of CBW personnel currently supported by USAID and GFATM in the target counties.

This activity will be led by University Research Co., LLC (URC), a HRH2030 partner. All planned activities will be conducted in consultation with key stakeholders including the MOH, MEACLSP, PEPFAR, GFATM, and implementing partners supporting HIV, TB and OVC programs. Priority counties, for this assessment will be chosen in consultation with stakeholders. At the time of posting this RFA, the

counties of Busia, Kilifi, Nairobi and Turkana are being considered for the activity. Potential offerors should use these counties as the basis of their responses.

2. PURPOSE OF THE RFA

URC is looking for the services of a local firm to support the assessment and mapping of community-based workers as described under the “specific objectives” in the Context section of this Request for Applications (RFA). The successful Applicant should be a firm with the capacity to carry out the required data collection activities in selected counties within the Republic of Kenya. Proposed counties for this activity include Busia, Kilifi, Nairobi and Turkana. Within these counties, final selection of the wards and health facilities where the assessment will be undertaken will be done in consultation with in-country stakeholders but one option is to select two high HIV burden and two lesser HIV burden wards in each county to make a total of eight for this assignment and then chose sites/health facilities from these wards to assess and map the activities of CBWs.

The approach to this activity will include two components to be accomplished in a stepwise fashion:

- **Step One:** Conduct an **assessment** of CBWs providing HIV, TB and OVC services, including analysis of numbers, demographic characteristics, roles, functions, support, workload, and factors related to performance and sustainability.
- **Step Two:** Using the data from step one, conduct **spatial analysis** and **systems mapping** of CBWs in areas with the highest HIV burden, which would include their distribution and interactions with and existing linkages between CBW types, health facilities and social services.

The assessment will describe all the various categories of community-based health and social workers and explore more extensively their roles and responsibilities, workload, incentive structures, and supervision systems using quantitative and qualitative data. The systems mapping will show CBWs organizational affiliation(s) and interactions with other CBWs and with health facilities.

The spatial analysis will show how the different types of CBWs are distributed within the selected focus areas and their proximity to HIV hotspots and the formal health care system. Qualitative methods such as key informant interviews (KIIs) and focus group discussions (FDGs) will provide relevant contextual information including technological (i.e., mHealth), human, political, social, and financial factors that will influence how the community-based health and social service workforce can be further optimized for in HIV, TB and OVC service delivery.

The **assessment** will utilize both quantitative and qualitative data collection. Key methodologies to be utilized include:

- Documentary review of existing data sources on CBWs of interest to this activity
- Key informant interviews with:
 - Officials at the county level who are responsible for supervising CBW activities
 - Representatives of Implementing Partners (IPs), Principal Recipients (PRs), Sub-Partners (SPs) and Sub-Recipients (SRs) running development partner-supported programs that utilize CBWs for HIV, TB and/or OVC service delivery
 - Representatives of the various CBWs of interest to this activity
 - Other local government or agency officials as may be determined
- Focus group discussions with CBWs of interest to this activity
- Workload assessments of the community-based workers through time and motion studies, interviews, and use of individual times sheets

- Case studies as appropriate

The data collection needs for this assignment include the following:

- Conducting an assessment of CBWs including an analysis of:
 - CBW types (*titles/names by which they are referred*);
 - CBW numbers disaggregated by sex and demographic profile;
 - Mechanisms through which CBWs perform their duties;
 - Training various types of CBWs receive;
 - Services CBWs provide along the HIV, TB and/or OVC service delivery continuum;
 - Support various types of CBWs receive (*e.g., supervision, mentoring etc.*);
 - Remuneration and incentive structures for CBWs (*e.g., salaries, stipends, non-monetary incentives etc.*);
 - Workload for various types of CBWs (*defined as time spent conducting different activities along the HIV, TB and OVC service delivery continuum*); and
 - Factors related to CBW performance, productivity and sustainability etc.

The **mapping** component of this activity will use the data collected during the assessment and will consist of two complementary methodologies – a spatial analysis and systems mapping with a social network analysis:

- 1) **Spatial analysis** will involve plotting the geographic distribution of community-based health and social service workers relative to HIV, TB and/or OVC hotspots¹ and health systems infrastructure to understand where and what type of workers are available, and where the gaps are.
 - The spatial analysis will be conducted in the selected counties with a view to understanding the rationale for CBW placement at certain sites, numbers and interactions with facility and community stakeholders, including for referrals, integrated care delivery, supportive supervision, and responsiveness to community needs. Community-based worker information will be combined with existing data and maps¹ about the HIV and TB epidemics, OVC prevalence and formal health care providers whenever possible. The data generated from the assessment under step one will align with the data structure used for existing HIV and TB prevalence maps and produce additional thematic layers showing the distribution of different types of community-based health and social service workers as well as their institutional support. Together with the systems mapping and social network analysis described below, this spatial analysis will inform the harmonization of the CBWs.
- 2) **Systems mapping and social network analysis** showing the diversity of CBWs and how they interact and interconnect with communities and relate to the formal health and social service systems and exchange information, which will help identify opportunities for standardizing roles of CBWs and engaging them in HIV and TB service delivery including role definitions, coordination, resource allocation, incentives and support structures.
 - *Systems mapping* will visualize the place and functions of CBWs within community structures and the larger formalized health system at county, district or ward levels. It will identify where parts

¹ This will heavily depend on the quality and level of granularity of HIV and TB burden as well as OVC prevalence data that is available in Kenya from sources like the Kenya National Bureau of Statistics, Kenya Demographic and Health Survey and PEPFAR.

of the informal and formal system can or need to change to formalize the roles of these workers and engage them more efficiently for HIV, TB and OVC service delivery. These maps can later be used to evaluate whether change has occurred.

- *Social network analysis* will complement systems mapping by showing the complexities of community-based health and social service systems, their dynamics and strengths of existing engagement and coordination across CBWs within the community and with the public sector health and social service systems to identify opportunities for stronger linkages between service providers.

The combined information from the assessment and the mapping will help identify opportunities for reorganization and coordination of the community-based workforce and guide more effective utilization of CBWs across programs to yield HIV, TB and OVC service delivery gains and efficiencies particularly with regards to enrolment and retention in care and treatment.

The firm will mainly gather data on CBWs supported by development partners but also obtain information about CBWs such as the community health volunteers (CHVs) and community health extension workers (CHEWs) that are on the local government payroll in some counties.

The successful Applicant should have a team leader with a high-level of knowledge, proficiency and capacity to conduct similar assignments. The successful Applicant should have the capacity to assemble a team of experienced data collectors who are capable of collecting the required information from sites in the target counties using data collection tools that they will jointly be developed in close collaboration with the Client and with inputs from other key stakeholders. The successful Applicant should have the capacity to enter collected information into an appropriate database and the skills to collate, clean and analyze the data as guided by the Client so as to produce meaningful outputs that will be useful in achieving the objectives of this assignment.

The successful Applicant should also clearly mention in their response to this RFA how they propose to contribute cost share towards implementing this activity. While cost share is not expected to be monetary, in-kind contributions that can be costed and validated (such as provision of already existent data sets that are key to implementation of the activity, provision of training space for data collectors, subsidization of transportation to counties/sites where data is to be collected, etc..) should clearly be identified in the applicant's response to the RFA. The proportion of cost share as part of the overall cost of this activity should be stated in the Applicant's Cost Application, our expectation is a cost share proportion of at least 15% of the overall cost of implementing this activity. The proposed cost share should be clearly itemized in the Applicant's cost application.

3. ACTIVITIES

3.1 Pre-Data Collection

- a. In close collaboration with the Client, finalize the development of data collection tools/interview guides for the following categories of respondents:
 1. Key informants from the relevant county-level departments that are responsible for CBW activities
 2. IP, PR, SP and SR representatives who manage programs that support CBWs of interest to this activity
 3. Representatives of various types of CBWs of interest

4. Others (*as may be determined during course of implementation of activity*)
- b. Development of appropriate electronic means of storage and analysis of collected information.
 1. An appropriate database for storage of data collected during assessment
 2. Appropriate software package(s) for analysis of information collected during the assessment
- c. Develop an organizational structure and team coverage plan that identifies:
 1. Overall team leader
 2. Team composition including information on how actual data collectors will be identified and appropriately trained
 3. Deployment plan for the assessment exercise in the selected counties
 4. Timeframe for the exercise
 5. Training plan for data collectors and execution of training
- d. Development of data analysis plans for the assessment

3.2 During Data Collection

- a. Carry introductory letters from appropriate authorities to each site participating in the activity
- b. Conduct documentary review as highlighted in Section 2
- c. Conduct interviews with the key informants identified in Section 2
- d. Conduct focus group discussions (FGDs) as highlighted in Section 2
- e. Conduct workload assessments of community-based workers as highlighted in Section 2
- f. Conduct relevant case studies of illustrative community-based worker programs as mentioned in Section 2
- g. Ensure that all required site-level data is collected as accurately as possible before departing each site

3.3 Post-Data Collection

- a. Enter quantitative data into appropriate software package(s) for storage and analysis as approved by the Client
- b. Enter qualitative data into appropriate software package(s) for storage and analysis as approved by the Client
- c. Compile a report on the implementation of the activity

4. DELIVERABLES

The following deliverables for this assignment consist of the following:

1. Data collection tools for the various types of data that needs to be collected as laid out in Section 2
2. Interview guides for the various key informants who will be interviewed as laid out in Section 2
3. Site-specific data entered into appropriate software packages as per Client's instructions
4. Report on the data collection process including lessons learned and challenges faced during exercise
5. MS Excel dataset containing quantitative information and inventory analysis of various CBWs
6. Thematic maps showing the distribution of various types of CBWs
7. Report on summary findings from analysis of data collected during the conduct of the activity

5. TIMING, MILESTONES AND PERFORMANCE TARGETS

For the purposes of responding to this RFA, applicants should follow the illustrative timeline below with the understanding that the timeline may shift during implementation.

Proposed schedule for key tasks

Key Tasks	Jun	July	Aug	Sept	Oct
Preparing inception report	X				
Training of data collectors		X			
Data collection		X	X	X	
Entering, cleaning and analyzing datasets				X	
Producing report as guided by client					X

Milestones and deadlines

Implementation Stage	Milestone	Deadline
Initial	Data collectors trained	July 15, 2018
Advanced	Data from all sites entered into electronic storage and analyzed	September 30, 2018
Completed	Reports submitted as per instructions in Section 4	October 30, 2018

6. AWARD

An agreement will be entered into, at URC's discretion, with the Applicant whose technical and financial offer demonstrates the most responsive and cost-effective approach and methodology to meet the RFA requirements, and whose offer represents the best value to HRH2030 and clearly outlines plans for cost sharing towards the implementation of this activity.

7. ELIGIBLE CANDIDATES

Individuals and firms that are interested in participating in this RFA should meet the following requirements:

- Must be a firm with experience carrying out similar work in the Republic of Kenya
- Must have extensive experience carrying out assignments of similar size and complexity
- Demonstrated expertise in data collection, data analysis and reporting
- Sufficient level of trained and experienced professionals committed to the work outlined in the Activities section
- A verifiable reputation of integrity and competence
- Experience serving USAID-funded programs and knowledge of USAID/PEPFAR programs is preferred

8. SUBMISSION GUIDELINES FOR APPLICANTS

Soft copies of this RFA can be online found at <http://urc-chs.com/partnerships>. Only electronic submission of responses to this RFA will be permitted. All responses should be submitted to hrhassessments@urc-chs.com by the deadline mentioned in this RFA (by 17:00 Hrs EAT on Friday, May 25, 2018) .

9. INSTRUCTIONS FOR APPLICANTS:

Applicants are encouraged to review in detail the following eligibility requirements, preparation and submission instructions. Applicants requiring clarification should send their written questions in English to hrhassessments@urc-chs.com by 17:00 hrs. EAT, Wednesday, May 16, 2018 referencing the RFA Solicitation Number (FY18-RFA02-5007-010) in the subject line of the email.

9.1 TECHNICAL APPLICATION INSTRUCTIONS

The Technical Application shall be a maximum of 20 pages containing the following sections in the order shown, using clear and concise language.

9.1.1 EXECUTIVE SUMMARY (1 Page Maximum)

9.1.2 CONTEXT (2 Pages Maximum)

This section should include a general overview of the proposed approach to this activity.

9.1.3 TECHNICAL APPROACH (14 Pages Maximum)

This section should include a brief description of the Applicant's technical and strategic approach to providing the services requested herein as well as a data entry and analysis plan.

9.1.4 INSTITUTIONAL CAPACITY (3 Pages Maximum)

This section should briefly describe the capacity of the Applicant with respect to:

- **Previous experience** in implementing data collection activities of similar size and scope, highlighting USAID or other donor-funded experience, as applicable;
- **Personnel experience and capability.** The Applicant will propose an individual or team with specific roles, responsibilities and qualifications of each member. Each team member will have a thorough understanding and demonstrated experience conducting similar assignments. The Applicant should propose at least 1 senior level team member to function as the team lead.

9.1.5 ANNEX TO THE TECHNICAL APPLICATION

Annex: In this section, the Applicant should provide CVs (limit of 3 pages each) and biographical data forms (USAID Form 1420 provided as Attachment I to this RFA) of proposed key personnel for this activity.

9.1.6 COST APPLICATION INSTRUCTIONS

The Cost Application must be submitted in a separate document in Microsoft Excel format (with formulas) at the same time the technical application is submitted. The Cost Application shall consist of a budget and budget narrative describing the following costs, as applicable:

9.1.7 What can be funded:

URC will reimburse the awardee for all expenses and charges that are reasonable, allowable, allocable and eligible. Examples of types of cost that will be allowed under the anticipated Subcontract:

1. Staff or consultant time specifically related to the scope of work
2. Expenses for meetings required for assignment purposes, including: data collector training, review of assessment documentation, production or printing of documents
3. Expenses for data collection, analysis, and report write-up
4. Per diem, Meals and Incidental (M&IE) expenses whilst in the field
5. Local travel costs associated with the data collection
6. Telecommunications related to the assessment
7. Itemized cost share applications that the Applicant will cover as part of this assignment
8. Other expenses that are directly related to the assignment

9.1.8 What cannot be funded:

Operating costs of a program such as:

1. Salary supplements or stipends
2. Transportation of interviewees/respondents for data collection
3. Purchase of computers
4. Purchase of vehicles
5. Rent for office space

This list is not all-inclusive, and additional questions on eligibility of items and costs should be addressed to hrhassessment@urc-chs.com prior to the deadline for questions noted on the cover page of this RFA.

* If the Applicant includes indirect costs (i.e., overhead, G&A) in its budget, it should clearly describe the basis for the claim of indirect costs (e.g., financial statement, audit report) or simply list only direct charges in the budget (i.e., no indirect costs as a percentage of direct costs).

The anticipated value for this award is not expected to exceed US\$ 45,000. However, the Client will consider the best value for money from Applicants. The Cost Application should be submitted in United States Dollars (US\$).

As already mentioned in Section 2, it is a requirement of this RFA that the Applicant propose cost sharing opportunities as part of the response.

9.1.9 Offeror should prepare two Budget scenarios:

The Client would like the Offeror to present two budget scenarios. One with anticipated costs for conducting the assessment in all the four counties mentioned and another with the costs if Turkana county is excluded from the assessment.

10. EVALUATION CRITERIA FOR APPLICATION

The complete technical application will be reviewed by a technical review panel, convened by HRH2030 and evaluated against the following criteria:

1. **Technical Approach (40 points)**
 - a. Technical approach reflects knowledge and expertise in data collection and analysis
 - b. Proposed training and deployment timeline is realistic and reflects a good comprehension of the activities presented in this RFA
 - c. Technical approach is clearly articulated and presents a thorough understanding of data collection methods and clearly articulates how to operationalize this activity in Kenya
2. **Qualifications of Team Leaders and Trainers (20 points)**
 - a. Team leader has demonstrated experience carrying out data collection activities, including site-level assessments and evaluations in Kenya
 - b. Experience and qualifications of personnel are appropriate relative to their respective roles on the team
3. **Organizational Capacity/Past Performance (10 points)**
 - a. Strong capability of the Applicant to successfully conduct all aspects of the data collection, analysis and reporting for the community-based worker assessment exercise as determined by past successful implementation of similar activities
 - b. Clear description of the roles and responsibilities of team members
 - c. Proposed team leader has the qualifications necessary to successfully complete the work detailed in the RFA
4. **Evaluation of Cost Application (30 points)**

After the Technical Application is evaluated by the technical review panel, HRH2030 will review the Cost Application. HRH2030 will assess whether the proposed budget is realistic and feasible given the items and activities described. HRH2030 may contact Applicants to revise budgets if any issues or questions are identified.

11. SUBMISSION INSTRUCTIONS

Applications must be submitted in English to hrhassessments@urc-chs.com by Friday, May 25, 2018 by 17:00 hrs. EAT. The application must be divided into two parts, the Technical Application and the Cost Application. The two parts should be electronically submitted at the same time.

1. The Technical Application should be typed in a 12-point font and not exceeding 20 pages as described in Section 9.1 above
2. The Technical Application should be submitted in the below order.

- I. Cover Page
- II. Table of Contents
- III. List of Acronyms
- IV. Executive Summary
- V. Context
- VI. Technical Approach
- VII. Institutional Capacity
- VIII. Annex with CVs and biodata forms of proposed staff

Note that the Cover Page, Table of Contents, List of Acronyms and Annex do not count toward the 20-page maximum for the Technical Application.

3. The Cost Application should be sent as a Microsoft Excel document.
4. A Budget Narrative should be typed in a 12-point font, not to exceed 4 pages, and submitted in Microsoft Word or searchable PDF format. Please note that 2 Budget scenarios are required as has been indicated in section 9.1.9
5. Modifications to the RFA may be made at any time prior to the Application submission deadline. Deadline for submission may be extended depending on the scope of a modification. Modifications after the deadline for Applications will be communicated only to those Applicants who submitted applications.

