

1. Procurement Procedure (already posted)

(No updated information, please refer to the Summary of Q&A as of February 19, 2017 posted at <http://www.gistda.or.th/main/th/node/1667>)

2. Instructions to Bidders and Draft Contract

Q2-93 Payment Schedule & installment are not fixed in the ITB (Instructions to Bidders) and draft of Contract. What is the payment schedule & installment and when will GISTDA inform of the payment schedule & installment to bidders?

Q2-94 Is it allowed for Bidder to suggest its preferred payment schedule & installment with proposal to GISTDA?

A2-93&94 Bidder may propose payment plan relating to deliverables accordingly. GISTDA will negotiate and agree on final schedule with selected bidder after contract awarded.

Q2-95 Is there any possibility to change payment currency from THB into USD or any other freely convertible currency?

A2-95 Payment of the contract shall be made in Thai Baht only. Only five percent bid security is allowed at an equivalent amount in a freely convertible currency.

Q2-96 Clause 2.1, should key suppliers submit any documents required in the description, such as a) to e)?

A2-96 Any entity in relation to firms, Joint Ventures/Consortium/Other Associations under clause 2.1 of the ITB shall submit the documents as mentioned in said clause.

Q2-97 Clause 2.2, we understand that the descriptions are applicable to Consortium as well. Please confirm our understanding is correct.

A2-97 Yes, Consortium shall comply with Clause 2.2 as well. The ITB shall be amended soon.

Q2-98 Clause 9.1 2b), please inform us of what kind of documents are required here.

A2-98 Any documents containing details of subcontractors and their specialist area including work experience.

Q2-99 Clause 10.4, this requirement does not match with the Draft of Contract Clause 8.2 and 11. Please clarify if bidder price should not include any tax.

A2-99 The bidder price shall include all taxes and other levies, excluding custom duty and

VAT as mentioned in Clause 10.4 of the ITB.

Q2-100 Clause 11.5, in case of fluctuation of the foreign currency cause a substantial increase in price originally quoted, what will be the resolution from GISTDA?

A2-100 The Bidder may propose the resolution.

Q2-101 Clause 20.8 & 23.3, there is an inconsistency in the number of days bidder has to appeal in case of disqualification. It is said 15 days in Clause 20.8 while 3 days in Clause 23.3. Please inform us of the correct number, or clarify more in case both of the numbers are correct.

A2-101 These two clauses are in different stages. Clause 20.8 applies to the bidder who is rejected by causes stated in Clause 20.6 whereas Clause 23.3 applies to the bidder who is rejected by causes stated in Clause 23.2. Please review the ITB accordingly.

Q2-102 Clause 27.3, does the description in the section mean that this bid process is also affected by the status of budget approval?

A2-102 The budget approval is the condition precedent to the execution of the procurement contract.

Q2-103 ANNEX 1A FORM OF BID, which Bid Form is valid between “ANNEX 1A of ITB FORM OF BID” and other distributed “BID FORM”?

A2-103 The Bid Form is in the process of correcting. The proper Bid Form will be published on GISTDA’s website before the date of bid’s submission.

Q2-104 ANNEX 2 FORM OF AGREEMENT, what is Bidder required for this documents?
Bidder is not in the position to sign on this document at the time of bid submission.

A2-104 The procurement contract will be executed with the successful bidder.

Q2-105 Draft Contract, Appendix C is missing in the package of the documents purchased.
Please inform us of it.

A2-105 Appendix C is Statement of Work and etc. The bidder shall propose to GISTDA at the bid submission stage.

Q2-106 Draft Contract, Appendix D, we understand that bidders shall propose this part.
Please confirm our understanding is correct.

A2-106 Yes.

Q2-107 Draft Contract, Appendix G is missing in the package of the documents purchased.

Please inform us of it.

A2-107 Appendix G is attached to the draft contract. Please refer to Amendment No. 2 (ANNEX 2) (16 Feb 2017) available on GISTDA's website.

Q2-108 Draft Contract, Clause 8.2, we understand that any kind of tax, corporate Income tax in the project, Withholding tax, Personal Income Tax, Value Added Tax, Stamp duty, etc. to be levied inside Thailand to all concerned parties including ones for subcontractors shall be borne by CUSTOMER. Please confirm our understanding is correct.

A2-108 The bidder price shall include all taxes and other levies, excluding Thai custom duty and VAT as mentioned in Clause 10.4 of the ITB.

Q2-109 Draft Contract, Clause 8.2, please clarify what it means. Why does the description mention only services associated with the Ground Segment?

A2-109 The bidder price shall include all taxes and other levies, excluding Thai custom duty and VAT as mentioned in Clause 10.4 of the ITB.

Q2-110 Draft Contract, Clause 11.1, the word "inside" in the sentence "by any authority outside and inside Thailand shall be borne by the CONTRACTOR" is supposed to be mistake and deleted. Please confirm.

A2-110 The bidder price shall include all taxes and other levies, excluding Thai custom duty and VAT as mentioned in Clause 10.4 of the ITB.

Q2-111 Draft Contract, Clause 12.1, we understand that the Advance Payment Guarantee issued by a bank which is registered and authorized to do business in Thailand or a foreign bank through a correspondent bank in Thailand is acceptable. Please confirm our understanding is correct.

A2-111 The information regarding to the advance payment guarantee shall be informed to the successful bidder later on.

Q2-112 Draft Contract, Clause 13.4, we understand that the Advance Payment Guarantee issued by a bank which is registered and authorized to do business in Thailand or a foreign bank through a correspondent bank in Thailand is acceptable as mentioned in ITB. Please confirm our understanding is correct.

A2-112 The information regarding to the guarantees (other than bid security) shall be informed to the successful bidder later on.

Q2-113 Draft Contract, Clause 13.4, what is the event or certificate to prove the “free from its liabilities”?

A2-113 The Contractor shall be free from its liabilities after all obligation of the Contractor under THEOS-2 contract has been fulfilled.

Q2-114 Draft Contract, Clause 37, the word “CUSTOMER” is supposed to be “CONTRACTOR”. Please confirm.

A2-114 It means Customer. The bidder may propose otherwise, GISTDA will consider accordingly.

Q2-115 In which bid document, the required document (listed documents) should be included, “Vol 1 Technical Proposals” or “Vol 2 Pricing Document”?

A2-115 The documents as mentioned in clause 9 of the ITB shall be submitted to GISTDA in two volumes separately.

Q2-116 BID FORM, what does “the Department” mean?

A2-116 The Bid Form is in the process of correcting. The proper Bid Form will be published on GISTDA’s website before the date of bid’s submission.

Q2-117 Page 14_11, payment of the contract price shall be made in Thai Baht only. Please confirm the Payment terms. Could the Payment be made in US Dollars?

A2-117 Payment of the contract shall be made in Thai Baht only.

Q2-118 How do we fill in the ANNEX 1A after the word “Nos.”, ANNEX 1B after the word “Invitation to Bid No.”?

A2-118 Please replace the “Nos.” and “Invitation to Bid No.” with “Invitation to Bid for Satellite Systems, Ground Segments and GIS Applications/Solutions for Thailand Earth Observation System-2 (THEOS-2) dated January 12th, 2017, and its amendments.”

Q2-119 Documents from No. 1 to 6 shall be certified by Notary Public and Thai Embassy or Consulate of the Contractor’s country.

A2-119 “Thai Embassy or Consulate of the Contractor’s country” means Thai Embassy or Thai Consulate at the Contractor’s country.

Q2-120 Attached "list of corporate document of foreign contractor.pdf" does not include the word “OR”. Kindly check whether we need to prepare 1) latest affidavit of the company & 2) the prospectus of the company or can we dispense with these

documents by only submitting company registration.

Q2-120 Please follow the Instructions to Bidders i.e. "A copy of Company Registration Certification (Certified true and correct by authorized person) or the latest Affidavit of Company – Said Affidavit should have the details of the company name, the location of the company, the registered capital, the authorized signatories and company's objective or a copy of the Prospectus of the company (Certified true and correct by authorized person)"

Q2-121 Our company do not have the "Memorandum of Association".

A2-121 All corporate documents as required to be submitted to GISTDA shall be as mentioned in the list of corporate document of foreign contractor or any other documents that have the same contents. Please see the example of the documents and their contents on <http://www.dbd.go.th>.

3. Appendix 1: Background

(No question received from 20170209 to 20170216 concerning this Appendix)

4. Appendix 2: Prelude to Insight of Bid Requirement Context

Q4-2 Ref 1.2, "the use of drones for areas, for example, over farm-level observations is to be incorporated and proposed." Could you confirm that all the data sources described in Fig. 2 like for example UAV, Aerial ecc. are to be considered as supplied (CFI Customer Furnished Items) directly by GISTDA?

A4-2 The architecture in Fig. 2 is the concept for the bidder to develop the proposal. There is no constraint for the bidders to make use of the data sources. However, all proposed data sources shall be provided by the bidders

Q4-3 Ref 1.3 Required Approach and Methodology from Proposal: Could you explain better what do you intend with Required Approach and Methodology? Do you mean that the Bidder have to make a kind of "Business Plan" indicating the way to use efficiently the Platform for achieving the national targets as per fig. 4 Page 51?

A4-3 It explains how the integrated solution platform / applications are conceptualized and implemented.

5. Appendix 3: Requirements for Solutions and Applications

Q5-19 6. Core Product Requirements, could you let us know the following about City Map (Sc=1/4,000) which you are working on to develop? (Area/Spec/Update period)

- A5-19 Please propose the best solution possible with reasonable methods. GISTDA will evaluate and score accordingly.
- Q5-20 6. Core Product Requirements, could you let us know the following about City Map (Sc=1/25,000) which you are working on to develop? (Area/Spec/Update period)
- A5-20 Please propose the best solution possible with reasonable methods. GISTDA will evaluate and score accordingly.
- Q5-21 6. Core Product Requirements, could you let us know the following about City Map (Sc=1/50,000) which you are working on to develop? (Area/Spec/Update period)
- A5-21 Please propose the best solution possible with reasonable methods. GISTDA will evaluate and score accordingly.
- Q5-22 6. Core Product Requirements, could you let us know the following about Land Use Map (mesh: 50m, 100m) which you are working on to develop? (Area/Spec/Update period)
- A5-22 Please propose the best solution possible with reasonable methods. GISTDA will evaluate and score accordingly.
- Q5-23 Overall water resource management application, data coverage shall be for the whole of Thailand, including feeder river systems from outside of Thailand. Please confirm.
- A5-23 Confirm.
- Q5-24 Art. 7.1 Agriculture and food security, is there a mistake on 320 million hectares of arable land in Thailand (3,2 million of ha?)? Do you intend 320 millions of Thai agro-reference unit (1,600 sm vs 10,000)?
- A5-24 There is a mistake in unit i.e. 320 million rais (Thai unit).
- Q5-25 Art. 7.1 Agriculture and food security, land use type of technology: why you did not include SAR X band, considering that it permits the best surface canopy detection vs sensors with larger wavelengths?
- A5-25 It is minimum requirement. Potential bidders are invited to propose more options.
- Q5-26 Art. 7.1 Agriculture and food security, minimum 13 crops to be differentiated with overall accuracy 85%, considering the mixed situation (ranging from arable to several permanent crops): do you intend the accuracy request in the complex or 85%

must be reached for each crop?

A5-26 For each crop.

Q5-27 Art. 7.1 Agriculture and food security, the annual 1:4,000 cadastral scale for 13 crops classification, needs VHR optical data availability, that will be acquired throughout the year and theoretically everywhere: do you intend to use aerial data to compensate the possible lack of acquisitions or suitable acquisitions in time for a correct detection (e.g. out of detectable phenology etc.)?

A5-27 Please consider to use satellite constellation and others (e.g. aerial imagery).

Q5-28 Art. 7.1 Agriculture and food security, daily soil moisture request at country level- provision of soil moisture is based on radar information using cumulated periods (decades, months) and meteo integration; passive microwave sensors are able to provide daily statistics of the target, but through very low resolution data, not suitable to the requested 1:50,000 scale – can you better explain the requirement?

A5-28 Please propose the best solution possible. GISTDA will evaluate and score accordingly.

Q5-29 Art. 7.1 Agriculture and food security, AH ad hoc provisions on AOI, which represent the central part of the country (diseases, damages, etc) both for 1:50,000 and 1:4,000 scale: do you really intend cover the entire AOI at 1:4,000 scale for insurance necessity or do you foresee some particular locations? Generally, can you help to clarify what does it mean “ad hoc”, in terms of surface and frequency?

A5-29 “AH = ad hoc” refers to specific area of interest (AOI) in particular time or period.

Q5-30 Art. 7.1 Agriculture and food security, crop stress, nitrogen, condition, etc.: considering the weekly request of frequency and the necessity of optical data for this target- do you think to suspend this service during the monsoon time, when optical acquisitions is very challenging?

A5-30 Please consider to use satellite constellation and others (e.g. aerial imagery).

Q5-31 Art. 7.2 Integrated Water management, for daily soil moisture 1:50,000: what do you really intend as 1:50,000 “groundwater” mapping with monthly frequency?

A5-31 For example, tracking groundwater change, estimating groundwater recharge, etc.

Q5-32 Art. 7.2 Integrated Water management, for daily soil moisture 1:50,000: when you

- ask for week frequency for water quality (turbidity, algae, etc), due to the optical data necessity, do you think again to suspend the provision during monsoon periods?
- A5-32 Please consider to use satellite constellation and others (e.g. aerial imagery).
- Q5-33 Art. 7.2 Integrated Water management, for daily soil moisture 1:50,000: what do you really intend for watering control, each week, for the huge area of AOI at 1:4,000 cadastral scale?
- A5-33 For example, the use of satellite imagery provides the means to monitor the agricultural water consumption over the agricultural areas.
- Q5-34 Art. 7. 3 Disaster and Geo-Hazard, prevention and monitoring drought: do you think useful to introduce optical data (leaf water indexes, etc) in addition to SAR?
- A5-34 ITB is minimum requirement. Potential bidders are invited to propose other appropriate technologies and solutions.
- Q5-35 Art. 7. 3 Disaster and Geo-Hazard, the requirements for mapping, modelling and management, considering the AOI need large amount of ancillary data, both graphic and alphanumeric: may we get information about the presence and the consistence of for instance of geologic/lithologic data bases, historical meteo, fuel maps, occurred landslides, etc?
- A5-35 GISTDA will provide as much information as possible for the successful bidder.
- Q5-36 Art. 7. 3 Disaster and Geo-Hazard, air quality at country level (PM10, PM2.5..): can you provide a list and the distribution/consistency of Air control central units spread-out the territory?
- A5-36 For a list and the distribution/consistency of Air control central units spread-out the territory, Bidders may get this information from several departments, such as Meteorological Department of Thailand, Ministry of Natural Resources and Environment.
- Q5-37 Art. 7.4 Natural Resources and Ecosystem, monthly forest biophysical parameters generally need optical contributions: do you intend to suspend it, if summer period does not make available data?
- A5-37 We confirm the requirement.
- Q5-38 Art. 7.4 Natural Resources and Ecosystem, coastal & marine sector: all the requested

parameters (e.g. daily chlorophyll, plankton, etc) need optical and meteorological contribution. The same question of above during monsoon time...obviously not including the feasible oil spill detection by SAR

- A5-38 Please consider to use satellite constellation and others (e.g. aerial imagery).
- Q5-39 Page 64_1_L20, the nine river basins (Ping, Wang, Yom, Nan, Chao Phraya, Pasak, Thachin, Prachinburi and Bang Pakong) are to be taken to form the basis of design requirement at the time of the satellite construction, prior to launching. The vector data of the Nine river basins (including zoning division and definition) need to be provided.
- A5-39 Bidder can obtain a rough estimate of the boundary from Fig 9.
- Q5-40 Page 71_7.1_L22, for the agriculture, integrated solutions shall be developed to support crop across the whole of Thailand and Southeast Asia (SEA). The image and vector data of the exact boundary of the whole of Thailand and Southeast Asia (SEA) need to be provided.
- A5-40 Bidder can obtain a rough estimate of the boundary from Google Map or other web services.
- Q5-41 Page 73_7.1_L10, meteorological forecast information including rainfall predictions, temperature predictions and humidity levels. We want to know the current method and mode of the meteorological forecast, on data processing and distribution.
- A5-41 Please visit to the website of Thai Meteorological Department or others related. For specific information please contact them directly.
- Q5-42 Page 78_7.3_L26, for the Disaster and Geo-Hazard, integrated solutions shall be developed to support water management across the whole of Thailand and the areas across borders where disasters may occur and spread into Thailand territory. Could the DEM, historical data of disasters and geological disasters be provided?
- A5-42 GISTDA will provide as much information as possible for the successful bidder.
- Q5-43 P70, 73, 81, etc. The 1:4000 scale mentioned in several application products. But the highest resolution of satellite data is 0.5 meters. To produce 1:4000 scale products, the spatial resolution of the data is better than 0.4 m in order to ensure the high accuracy.

- A5-43 According to ASPRS Standard Guidelines, please find the attached document for the reference.
(https://www.asprs.org/a/society/committees/standards/ASPRS_Positional_Accuracy_Standards_Edition1_Version100_November2014.pdf)
- Q5-44 P70, P124 The level of data products is introduced on page 124. The type of the core application products is introduced on page 70, including data, processing, mapping and elevation, etc. But there is no hierarchical classification for application products. Are there application products classification standards in Thailand? Whether it is required to categorize the classified application products?
- A5-44 Please follow the Land Use Classification System referred by Land Development Department (<http://e-library.ddd.go.th/library/Ebook/bib1359-e83.pdf>).
- Q5-45 P62-98 There are requirements about data processing, system control, database, deployment and installation on six application service platforms. But there is not a requirements for integrated processing and service platform. Redundant storage, or independent storage? To be specific, every application system has a dataset and common processing system, or combined to form a comprehensive processing and services platform.
- A5-45 Bidders are invited to propose appropriate technologies and solutions to develop the most efficient and effective integrated system.
- Q5-46 P86 The requirements of security measures for the space and ground segments are mentioned in the section of Social Wellness and National Security. Clarify the security-level for various parts of the space and ground segments, archive facilities, processing, dissemination and end-solution access.
- A5-46 Please follow Dual-use operation in Appendix 5 and Fig.13.
- Q5-47 The specific requirements about the system development (i.e. development environment, commercial software) are not included in the bidding documents. Are there any specific requirements for system development environments and commercial software applications?
- A5-47 No, please propose appropriate and compatible technologies.

6. Appendix 4: Requirements for Provision of External Data

Q6-7 The range of external input source

- a) Confirm whether to install sensors and IoT sensors and how many.
- b) Is GISTDA solely responsible for all implementation tasks associated with sensor installation?
- c) What is the power supply type for the sensor?
- d) Is there any support agency in Thailand?
- e) The type of power and network services in the space where the sensors are to be installed

A6-7 a) Bidder shall make a proposal accordingly. If the sensors are deemed necessary, it is bidder's responsibility to determine the sensor types, quantity and related details.

- b) No, this task is under bidder's responsibility.
- c) Bidder shall propose accordingly.
- d) Yes.
- e) Bidder shall propose accordingly.

7. Appendix 5: Requirements for Very High Resolution Satellite and Small Satellite Systems

Q7-48 Where are the two present S-band antennas located? Where are the two present X-band antennas located?

A7-48 All antennas are located at Siracha Ground Control Station.

Q7-49 Where will the new S-band antenna provided by the bidder be located?

A7-49 It will be located at Siracha Ground Control Station

Q7-50 Does the X-band system the bidder will modify include two X-band antennas? If not, which X-band antenna should the bidder modify?

A7-50 Yes, both antennas shall be modified. Please refer to 4.3.2 X-Band Antenna.

Q7-51 Page 109_2.2.2, please specify the requirements of AIS/ADS-B of the Ground Segment

A7-51 Bidder shall propose AIS/ADS-B and its ground segment which is applicable for all the application/solution state in ITB (for example section 7.5: Social wellness and National Security).

- Q7-52 Page 125_4.6_L15, a replication of the downlink and processing system suitable for embedding as a mobile system or located on a sea vessel. Please provide more information of Mobile Ground Segment, and specification requirements of Mobile System or Vessel System.
- A7-52 There is no specific requirement or detail definition for sea vessel. The intention of para 4.6 is just to indicate the mobility of a replication of downlink and processing system of the Mobile Ground Segment on a mobile platform or sea vessel.
- Q7-53 Page 121_4.2, the bidder should support /assist GISTDA to develop and modify GISTDA image production system (SIPRO) and image archiving system (GASS) in order to be interoperable with Thaichote-2, small and other operation system. Current, it is hard to evaluate how much work need to modify the SIPRO and GASS system, so we need the details information about these two systems and IGS, and clarify the interface, hardware sets and hardware deployment.
- A7-53 SIPROs is the image processing software developed by GISTDA which is currently able to process THEOS-1 data and generate up to standard product level (Radiometric and Geometric Corrected). The scope of this system is to modify the SIPROs to be able to interoperable with Thaichote-2, Small Satellite and other operation system.
- GASS is GISTDA's Global Archive for Standard Satellite Imageries which data from all satellites in which GISTDA receives will be imported and store in GeoTIFF format.
- Q7-54 Page 113_2.4, the bit error rate of image data downlink shall be better than 10^{-9} after error correction for image data" The value is larger than that in Thaichot-2 (which is 10^{-6}), please verify the value.
- A7-54 Small satellite shall have lower bit error rate (BER) than the main satellite and shall not be directly compared. BER of 10^{-9} after error correction is confirmed.
- Q7-55 Page 102_1.2, Page 108_2.2.1, the bidder shall provide the number of image acquisition sequences. Does the "number of image acquisition sequences" means the number of scenes?
- A7-55 No, it means number of maximum imaging sequence which the satellite can store for image programming.

Q7-56 Page 103_1.3, MTF Table, please clarify that if the values in the table are the results of laboratory test or the in-orbit test?

A7-56 The values specified in the table are requirements after the downlinked data has been processed up to radiometric corrected level which shall be verified during in-orbit test.

Q7-57 Page 110_2.2.3, MTF Table, the index of PAN (0.2) for the small satellite is higher than that of Thaichot-2 (which is 0.1), please consider the situation. Please verify that if the values in the table are the results of laboratory test or the in-orbit test?

A7-57 We confirm the requirement but bidders shall propose better specification of MTF on both satellites to ensure optimum image quality. The values specified in the table are requirements after the downlinked data has been processed up to radiometric corrected level which shall be verified during in-orbit test.

Q7-58 Will the high resolution satellite and small satellite be launched by one launch vehicle (Dual-launch)?

A7-58 There is no such requirement. Bidder shall manage to launch two satellites with respect to the specified orbits.

Q7-59 Will both Main Satellite and Small Satellite be tracked and controlled by the Si Racha ground station?

A7-59 Yes.

8. Appendix 6: Requirements for IT Infrastructure Design

Q8-3 Is it possible to provide any information on the existing network and network status?

A8-3 Already provided in Appendix 6.

Q8-4 Are network lines installed to connect the existing organizations? If not, the cost-bearing body shall be determined.

a) Confirm current network establishment status - 130p

b) Confirm whether network for external access has been installed for each organization

c) Confirm line redundancy and the desired connection speed requirements

A8-4 The existing infrastructure is already provided in ITB. The bidder shall assess and revise the existing infrastructure and provide the architecture design according to proposed solution/application. Please refer to previous Summary of Q&A (Q8-2).

- Q8-5 What telecommunications company is GISTDA with? Can contacts and related informations be provided?
- f) What is the pricing plan for the network line?
 - g) Confirm the presence of DWDM (1 lambda) for data duplication. What is the cost for the line?
 - h) Note that at least two external lines must be provided in case the network connection is lost.
- A8-5 Recently, GISTDA has a contract with local network service provider with standard pricing plan.
- Q8-6 What are the existing VPN equipments and connection encryption method? What are included?
- A8-6 Bidder shall design and include with its proposal. GISTDA shall evaluate and score accordingly.
- Q8-7 What is the line speed for other organizations? Is it dedicated line or is ADSL line going to be used?
- A8-7 Bidder shall design and include with its proposal. GISTDA shall evaluate and score accordingly.
- Q8-8 Scope of Connection
- a) Connected organizations: Training Bangkhen, Gistda head and Stellite Center Sri Racha
 - b) Is there a potential legal issue if there are portals deployed on the external agencies?
 - c) Development language/framework, database and standard interface
 - d) Is there a pre-defined content for the service to be provided at the national level?
If yes, what is it?
- A8-8
- a) Please refer to the requirement in Appendix 6 of ITB.
 - b) We do not have information regarding this matter. Bidder shall propose what deem appropriate.
 - c) English as a standard language
 - d) Please refer to the requirement in Appendix 6 of ITB.

9. Appendix 7: Requirements for Capacity Building, Technology Transfer and Training

Q9-5 Page 141_1.6_L22, detail design review (SDDR). GISTDA is requested to explain the difference between SDDR and CDR.

A9-5 SDDR is the extended detail of PDR which may occur at some point before CDR.

Q9-6 "Page 134_1.1 (No.12 of Table 1)" End to end engineer, Design and develop end to end testing system. Please define the scope of "end to end".

A9-6 End to End covers the entire space segment and ground segment focusing on which is required for integration and testing/ validation of both segments together as a whole system.

Q9-7 Page 135_1.1, technician and engineer supporting sub-system productions. Please specify "technician", does it mean the personnels who are responsible for AIT?

A9-7 Personnel who performs hands-on work alongside engineer during AIT and in the laboratory.

10. Appendix 8: Requirements for Bid Program

(No question received from 20170209 to 20170216 concerning this Appendix)

11. Appendix 9: Requirements for Business Development

(No question received from 20170209 to 20170216 concerning this Appendix)

12. Appendix 10: Evaluation & Criteria

(No question received from 20170209 to 20170216 concerning this Appendix)

13. Appendix 11: Reference Information

Q13-8 Page 154_1.1_L2, Country Strategy & Policy Papers (attached as a separate document). When could the “20-year National Strategic Action Plan (2017-2036)” & “12th National Economic and Social Development Plan” be provided by GISTDA?

A13-8 Already answered in previous Summary of Q&A (Q13-1).

Q13-9 Page 154_2.1_L5, Hardware at SKP. The detailed SKP hardware resource information need to be provided.

A13-9 Please see in the attachment document in previous Summary of Q&A.

14. Language and Common

Q14-1 What is the basic language support requirement for GISTDA?

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Satellite Systems, Ground Segments and GIS Applications/Solutions under THEOS-2 Project

A14-1 English.

Q14-2 Is Thai language support only required for nationwide user services?

A14-2 No.

Q14-3 What is the preferred operating system for the computing system?

A14-3 Bidder shall propose the best solution. GISTDA shall evaluate and score accordingly.

Q14-4 Is on-site development and systems integration support required?

A14-4 Yes.

Q14-5 Is there any VISA or legal considerations for a long-term visit to the country?

A14-5 Please consult your embassy in Thailand.

Q14-6 Is accommodation available in GISTDA?

A14-6 No.

Q14-7 What is the estimated number of users of GISTDA?

A14-7 Bidders should analysis and propose the best solution. GISTDA shall evaluate and score accordingly.

Q14-8 What is the type of laptop computers currently in use and its OS's version?

A14-8 Variety of PC/ laptop/OS are being used depending on user/ applications.

Q14-9 What document editing software tools are being used? (e.g. MS Office - word, PowerPoint)?

A14-9 Variety of standard document editing tools used depending on user/ applications. MS Office is one of them.

Q14-10 Is provision of any document protection software solution is required?

A14-10 Bidders should explore and propose what is necessary.

Q14-11 Software licence agreement between MS and GISTDA: d. Is the client aware of both EA and GA type?

A14-11 N/A

Q14-12 How many licenses are purchased?

A14-12 N/A

15. Infrastructure

Q15-1 The scope of provision of GISTDA facility-related items. What is the scope of proposal?

- a) The provision of electricity in the building, generators, network equipments such as tray and cables.
- b) Is the operation room separated from the electrical room?
- c) Is the floor plan provided?
- d) What is the capacity of the UPS for the building?
- e) Shall the panel board be between floors
- f) Shall the access floor be designed to withstand earthquakes?
- g) Confirm whether air-conditioning is done in advance (constant-temperature, constant humidity control, installation of electricity and network tray, air-conditioning type)

A15-1 Bidder shall propose the design with related details and justification. GISTDA shall evaluate and score accordingly.

Q15-2 Backup time in the event of power outage

A15-2 Bidder shall propose the design with related details and justification. GISTDA shall evaluate and score accordingly.

Q15-3 What are the target organizations when establishing GIS system?

A15-3 Please refer to organization listed in the ITB and make further study.

Q15-4 The scope of operational room establishment / Securing the space to install the multi screens and the number users in the operational room

- a) Screen : 2 x 8 display
- b) Confirm whether to include console desks and chairs
- c) Confirm the installation body for the electricity and network with regard to the operational room
- d) Confirm whether air-conditioning facility and/or equipments are provided by the client
- e) Confirm whether to use the electricity from the UPS in the building.

A15-4 Bidder shall propose the best solution. GISTDA shall evaluate and score accordingly.

Q15-5 Space for installation. What are the location and dimensions of the antenna installation site? Is there any high-rise building or obstacle nearby? If so, what is its height?

A15-5 Bidders shall propose the location which suitable (no obstruction) for installing the antenna.

16. GIS Software

Q16-1 Confirm whether 3D or 4D graphics are required when visualizing GIS data.

A16-1 Both are required, bidders shall propose the best solution.

Q16-2 Is suggesting an open-source GIS solution an option?

A16-2 Bidder shall propose the best solution. GISTDA shall evaluate and score accordingly.

Q16-3 What is the scope of displaying and manipulation of End-user terminal?

- a) Web browser: editing, monitoring
- b) Mobile: monitoring
- c) Minimum specification requirements for the supported mobile device
- d) Minimum supported version of the mobile device

A16-3 Bidder shall propose the best solution. GISTDA shall evaluate and score accordingly.

Q16-4 Data provision: Confirm whether map data in electronic format can be provided

- a) Any legal issues with the data copyright?
- b) If the agency has pre-prepared data and GIS data, what is the range that can be provided?
- c) What are the legal issues and constraints associated with Google and other countries?

A16-4 Bidder shall make an analysis/explore/propose the best solution. GISTDA shall evaluate and score accordingly.

Q16-5 The type of GIS portal

- a) Should there only be a single centralized website or is it required to develop GIS portal websites for each organization?
- b) What information should not be included in the GIS information due to security implications?

c) Is the website's user response time of less than 3 seconds acceptable?

A16-5 Bidder shall make an analysis/explore/propose the best solution. GISTDA shall evaluate and score accordingly.

Q16-6 Estimated number of users of GIS service (Population: 680M, Internet users: 291M as of year 2016)

a) What is the estimated number concurrent users on non-mobile platform (i.e. desktop PC)?

b) What is the estimated number concurrent users on mobile platform (i.e. smart phone, tablet PC)?

A16-6 Bidder shall make an analysis/explore/propose the best solution. GISTDA shall evaluate and score accordingly.

17. Big Data and BI Solution

Q17-1 What is the expected level of output result?

A17-1 Bidder shall propose the best solution. GISTDA shall evaluate and score accordingly.

Q17-2 Does it involve integration using commercial software or development from ground-up?

A17-2 Bidder shall propose the best solution. GISTDA shall evaluate and score accordingly.

Q17-3 What are the anticipated data type for each target user group?

A17-3 Please refer to Appendix 3 in ITB. Bidder shall propose the best solution. GISTDA shall evaluate and score accordingly.

18. Data Protection

Q18-1 Can you please confirm storage cycle requirements for

a) Satellite data storage cycle

b) L0 storage cycle, L1 storage cycle, L2 storage cycle

c) GIS data storage cycle

A18-1 All these questions are not specified in ITB. The bidder shall propose normal practice of each requirement.

Q18-2 Data protection scheme and scope: Confirm backup policy and storage cycle for OS,

database and business data?

a) Is capability for OS backup required?

b) What is the type of data for permanent archiving?

A18-2 All these questions are not specified in ITB. The bidder shall propose normal practice of each requirement.

Q18-3 Backup data purge policy: Is policy and place for backup data purge readily available?

A18-3 All these questions are not specified in ITB. The bidder shall propose normal practice of each requirement.

Q18-4 Is fire resistant vault required for securely keeping the data medium?

A18-4 All these questions are not specified in ITB. The bidder shall propose normal practice of each requirement.

Q18-5 Disaster recovery

a) Is RTO (Recovery Time Objective) of 1 week reasonable?

b) Is the proposed system required to be built with redundancy

A18-5 All these questions are not specified in ITB. The bidder shall propose normal practice of each requirement.

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