



PART 2
SUBMISSION MODEL



IDENTIFICATION

Project number: _____/2016

Project Name:	Digital Photogrammetry with satellite images
Submitting RHC (Priority)	SWAtHC / Argentina Priority: 2
Date of submission:	<u>Second half of 2017</u>
Institution executing the project:	Servicio de Hidrografía Naval (SHN) Instituto Geográfico Nacional (IGN)
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GENERAL SPECIFICATIONS

Context	During SWAtHC10, it was decided to propose the CBSC the need for a regional training course on nautical charts for 2017 working on coastal area depiction with Digital Photogrammetry by means of satellite images in different formats compatible with paper nautical charts and ENCs to be displayed in ECDIS. The final approval of this training will be decided by CBSC under this submission model.
Justification of the Project	The purpose of this training course is to enhance both theoretical and practical knowledge in order to assist Latin American Hydrographic Offices in dealing with digital photogrammetry with satellite images (teledetection) for nautical charts production. This goes from software election to computer configuration, analysis of availability of satellite images, the scales of charts to be updated, the

	<p>updating methods, the required precisions, the products to be obtained, the use of different GIS layers, and the related fieldwork. Inputs into a database, incorporation in the nautical chart, and maintenance, etc.</p> <p>The training course will take place in the SHN. The required practice will take place in the laboratory.</p>
Countries involved	<p>Argentina, Brazil and Uruguay are the main participating countries in this training, and it will be co-financed with contributions to CBSC fundings.</p> <p>In order to take advantage of this opportunity, SWAtHC suggest CBSC to extend the invitation to other countries belonging to Hydrographic Commissions as MACHC y SEPHC.</p>
Explanation of the problem	<p>Charts and ENCs production requires to keep the topographic component of nautical charts depicting coastal infrastructures and accurate coastlines. Topography, existent buildings, approaches, highways, road and port installations are very useful for the mariner in the area to be charted (geographic boundaries of a specific chart or cell). Digital photogrammetry with satellite images reduces production time and enhances the application of resources, and this turns it in a valuable tool for nautical production. Furthermore, it leads to cost reduction since aircraft is not necessary to get the data to be processed.</p>
General objective	<p>Disseminate and increase the use of Digital Photogrammetry with satellite images in nautical chart production.</p>
Specific objectives	<ol style="list-style-type: none"> 1) Make available knowledge and skills on tools intended for this technology to benefitted countries. 2) Make it possible to fix accuracy and standard criteria for available tools as well as for every country capacity. To have similar quality and production criteria. 3) Give the participants the opportunity to exchange experiences in order to solve the most usual problems.
Outcomes/Products	<p>Give Hydrographers in Latin America the elements necessary for them to produce their national nautical charts with higher quality and in a shorter time.</p>
Other deliverables	<p>Allow regional countries to populate their hydrographic databases with the necessary topographic component for nautical charts and ENCs production.</p>

Expected achievements and benefits	Improve nautical charts and ENC's production and updating methods allowing quality enhancement and cost reduction using the provided tools and knowledge.											
Schedule of activities	<p>The Servicio de Hidrografía Naval (SHN) and the Instituto Geográfico Nacional (IGN) in Argentina have carried out the previous coordination to ensure implementation of this training course. They have learned with its organization as well as broaden their experience with such meetings. Argentina intends to comply with the schedule as stated below:</p> <table border="1" data-bbox="610 617 1479 1604"> <tr> <td data-bbox="610 617 764 831">First Day</td> <td data-bbox="769 617 1479 831">Kinds of satellites. Classification. Resolution of a sensor system. Spatial teledetection platforms. Introduction to image process. Image resolution. Software and output formats.</td> </tr> <tr> <td data-bbox="610 837 764 1052">Second Day</td> <td data-bbox="769 837 1479 1052">Hardware selection. Installation and configuration of specific software. Checking and assessment of geospatial data, digital cartography and databases. Spatial teledetection fundamentals.</td> </tr> <tr> <td data-bbox="610 1058 764 1220">Third Day</td> <td data-bbox="769 1058 1479 1220">Planning of an area to be updated (boundaries). Production of high quality thematic data. Obtaining images. Planning of fieldwork.</td> </tr> <tr> <td data-bbox="610 1226 764 1346">Fourth Day</td> <td data-bbox="769 1226 1479 1346">Processing of satellite image of the study area. Technical activities aimed at digital chart production.</td> </tr> <tr> <td data-bbox="610 1352 764 1604">Fifth Day</td> <td data-bbox="769 1352 1479 1604">Digital and analogue production of image charts of the study area. Conceptual design proposed by GIS. Design and production of metadata. Generation of specialized databases. Adequacy to specifications required. End product to obtain.</td> </tr> </table> <p>This tentative schedule may be changed when coordinating with the teachers in charge of the training course.</p>		First Day	Kinds of satellites. Classification. Resolution of a sensor system. Spatial teledetection platforms. Introduction to image process. Image resolution. Software and output formats.	Second Day	Hardware selection. Installation and configuration of specific software. Checking and assessment of geospatial data, digital cartography and databases. Spatial teledetection fundamentals.	Third Day	Planning of an area to be updated (boundaries). Production of high quality thematic data. Obtaining images. Planning of fieldwork.	Fourth Day	Processing of satellite image of the study area. Technical activities aimed at digital chart production.	Fifth Day	Digital and analogue production of image charts of the study area. Conceptual design proposed by GIS. Design and production of metadata. Generation of specialized databases. Adequacy to specifications required. End product to obtain.
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RESOURCES

Contribution by involved countries	The SWAtHC host country (Argentina) will provide the room for the training course as well as the staff for the organization of the different activities during the workshop.			
Contribution from other sources	SIHN. (€ 5000) SHN – meeting room, coffee break, local transportation, etc.			
Contribution to CB funding	(€ 26200) Hotels, flights and transportation for 12 participants: SWAtCH - 4 participants, (Brazil (2), Uruguay (2)). SEPHC - 4 participants. MACHC-4 participants. Payment for the lecturers.			
Total cost (euros)	€ 31200.			
Expense breakdown				
CBC funding (item and amount)	ítem	Per person	Amount of Persons	Total
	SWAtHC- Hotel, flights, meals and Local transportation for 4 participants	Flight – € 600	4	€ 2400
		Hotel – € 1050	4	€ 4200
	SEPHC – Hotel, flights, meals and local transportation for 4 participants	flight – € 800	4	€ 3200
		Hotel- € 1050	4	€ 4200
	MACHC – Hotel, flights, meals and local transportation for 4 participants	flight– € 1000	4	€ 4000
		Hotel – € 1050	4	€ 4200
	SIHN / IGN – Meeting room, coffee breaks, transportation, etc			(€ 5000) SHN
	Payment for 1/2 trainers	(Not defined yet)	1/2	€ 4000
	<u>Final cost</u>			