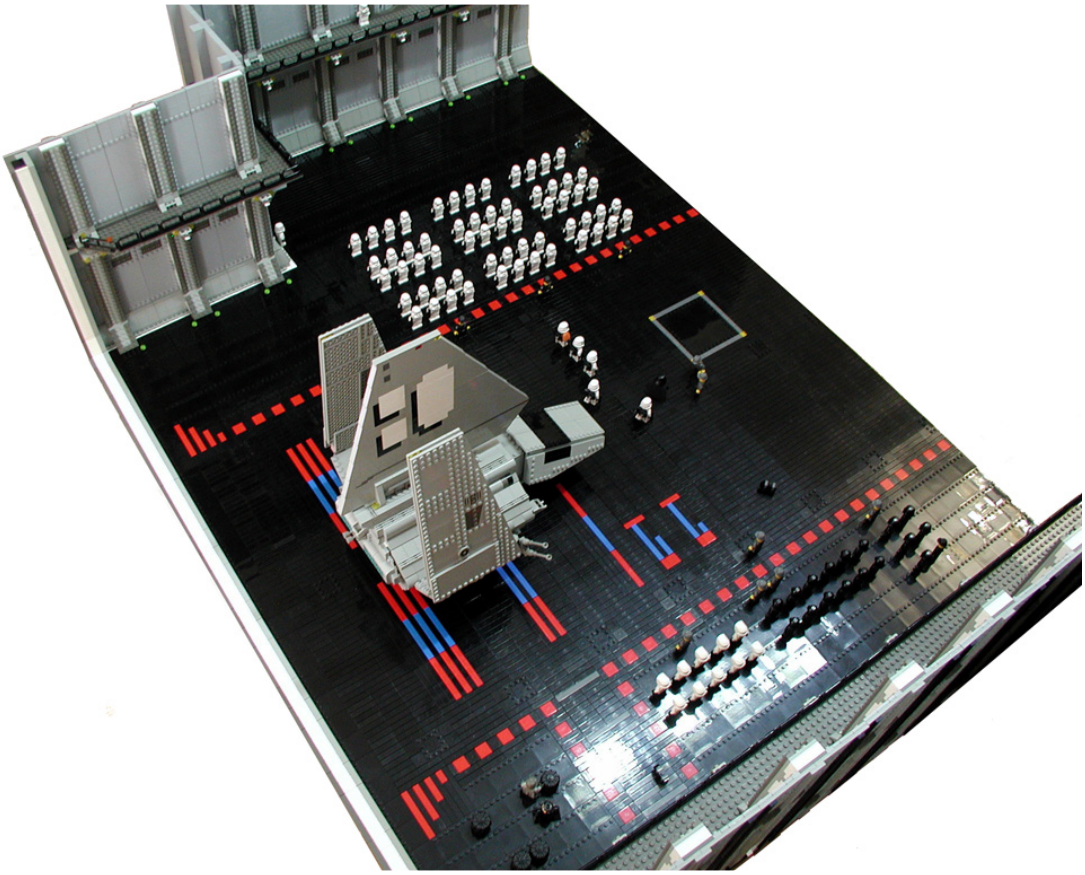


The Construction of the Imperial Hangar

There is nothing so gratifying for a LEGO® and Star Wars™ fan as the possibility of recreating some of the most famous scenes from the movies.

Text by: Legotron and pictures by Legotron and Roman Gibert

Starting point.

Like any project of a certain size, the one which is described below was born from an idea which was floating around for a long time: to build the scene of the Emperor's arrival at the Death Star™, from the film “The return of the Jedi”. It could be said that there is no AFOL fan of the Original Star Wars™ Trilogy that has never considered such challenge. Having the possibility of contemplating various displays made by other AFOL increased the desire to do the same. And that was how, in 2003, the design and the preliminaries of this project. were started. After a few months it was ripe and after deciding the main lines, in the beginning of 2004, the construction of the Imperial Hangar started.
The most important point was to adhere to my initial planning, the outlines, of which were to be followed from the very first moment, were the following:

- Build a reduced scene, based on the arriving of Lord Vader™ to his Super Imperial Destroyer, the Executor™, but with the same components, a transport ship, a hangar and a martial parade.

- Build it as accurately as possible to the scale defined by the elements, and as the central element of the display, the Lambda class Imperial Shuttle™.

- Build the whole project as a modular construction [1], which will allow the continuity and development of the construction in a very long term.

- Make initial module sketches with my PC, in order to make the acquisition of the necessary bricks for the different project elements possible.

Design preliminaries.

From the very beginning I divided the project in two different parts. On the one side was the shuttle, which was supposed to act as the central element and be the moving force of the project. And in the other side was the hangar design, set up with lots of floor and wall modules, and to be designed in accordance with the size of the shuttle. My aim was not to build an exact replica of the hangar seen in a few frames of the film, but to adapt the design to be inserted in the Star Wars theme.
To achieve continuity in time, the shuttle should be the first element to be assembled. If it didn´t look good the display would lose its most representative element and it wouldn´t have a succesful ending. For this reason, from the beginning my effort was focused on finding a design that would fulfil my expectations and be feasible technically and economically. Keeping in mind that the LEGO® shuttle, from set 7166 “Imperial Shuttle” was too small, and doesn´t look like the original model, it was necesary to start building the model from scratch.

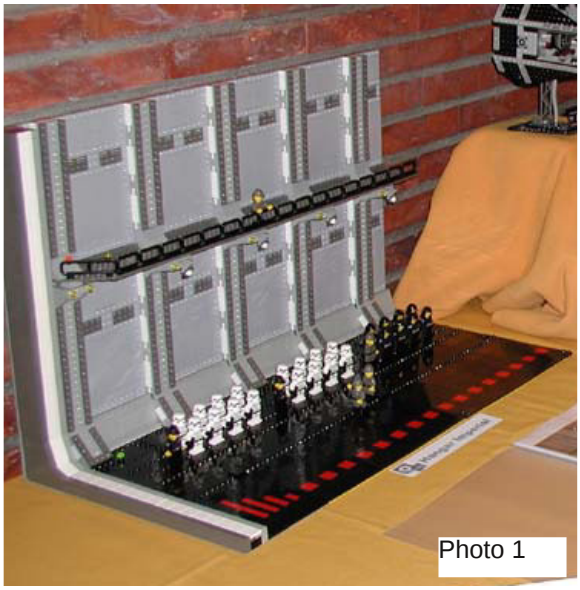


Photo 1

The design of the secondary hangar elements was pushed to the background. Several prototypes were designed on the computer and changed as the shuttle took shape. Two different modules were designed, the floor modules using baseplates 16x32 and the wall modules, using baseplates 8x16.

Construction process.

All the construction process was divided in different stages, each of them with a specific goal that I tried to reach. As the goals were reached, new stages were started, with the design and assembly of new elements. The process of expansion has been developed over more than 5 years till today, without a defined ending point, so it´s almost sure that it will keep on growing in the following years.

Phase I - the shuttle.

The construction of the shuttle began in mid-2004. The size of the shuttle was a key issue: if too small it couldn´t be the centerpiece of the display, and if too large, would be out of scale and the cost could stop the construction. After excluding more than half a dozen designs, I began to work with the final one in the summer of 2004. With this design the first glimpse of the final size of the hangar could be seen. Knowing the final size of the Lambda shuttle was very important, because the modules of the walls should have at least the same height so as not to be out of proportion. The shuttle was made up of several modules: body, cockpit, rudder and wings, and by early 2005 both the body and the rudder were fully designed and constructed, so the construction of the first hangar modules could start. The construction of the cockpit needed numerous tests and changes to incorporate all the details and the slopes. During this process of construction, the tone of the grey bricks was changed by LEGO, which made the new parts incompatible with the old ones. Unfortunately, the shuttle was built entirely with light grey parts, and the finishing of the wings began to be a serious problem. Parts of the old color reached prices that sometimes exceeded 10 times that of the new colour, and not all the parts had their counterpart in the new color, making it critical to decide whether to continue with the old colors or change to the new gray. As a compromise the wings were built with the new colors waiting to see the evolution of availability and prices of the parts needed. So at the end of 2005 the shuttle was practically built, the only tasks left being equalizing the colors used in the model and adding a few final details.

Photo 2

Photo 3

Phase II - The first modules of the hangar.

The construction of the hangar began with the window that looks directly into space, and would grow inwards. For the first modules I started building a wall, with an end of the window module and another two or three standard modules that made up the nucleus of the hangar walls. The floor modules were the simplest part, because they consisted of baseplates covered with tiles, mostly black, which only had to follow the drawings of the other wall modules to which they were joined. Interestingly, one of the things that was changed more times during the early stages of development was the height of the wall modules. The original idea was to keep them the same height as the shuttle, but this changed as they must be placed in their storage boxes fully assembled . After many changes I finally I decided on the design for all types of walls, after designing and building up to 14 different models. But all this work finally began to bear fruit, and in late 2005 I had 5 wall modules and the same number of floor modules. However, the problem of color change was a serious hindrance to the project. The modules were built in light gray, and some of the parts started being scarce in Bricklink [2], the main source of supply for the parts. And while it may seem odd the continuity of the project depended on a purely economic issue. Continuing with the old color was too expensive, and changin to the new gray meant having to buy all the parts again, which also was very expensive.

Phase III - Homogenizing colors.

As fate would have it, by the end of 2005 I received a proposal to show my LEGO® constructions at an event, the Collecting Fair Munguía/Mungia 2006, organized by the Bitxikiak association [3]. Around this date HispaLUG began taking its first steps in the AFOL world and it also coincided with the inauguration of the website LSWImperial [4], designed to show all my LEGO related Star Wars™ constructions. Three good reasons to speed up the project. After a couple of days, calculator in hand, doing endless costs calculations, I found the solution to the color problem. I determined that the shuttle would be completed using only light gray parts, and all the bricks with new colors would be changed with those in the wall modules. The walls would be covered with light bluish gray tiles, placed on plates of both colors to make good use of the already purchased parts. All the changes were made and everything was prepared to be transported to the fair. The exhibition was successful, and based on the comments I received, people liked the color scheme a lot. (In picture 1 you can see the wall design was not the final design). Therefore, in mid-2006 the shuttle was completed. Besides, I had the final design of the hangar walls, and a total of 5 modules available, with a dozen floor modules.

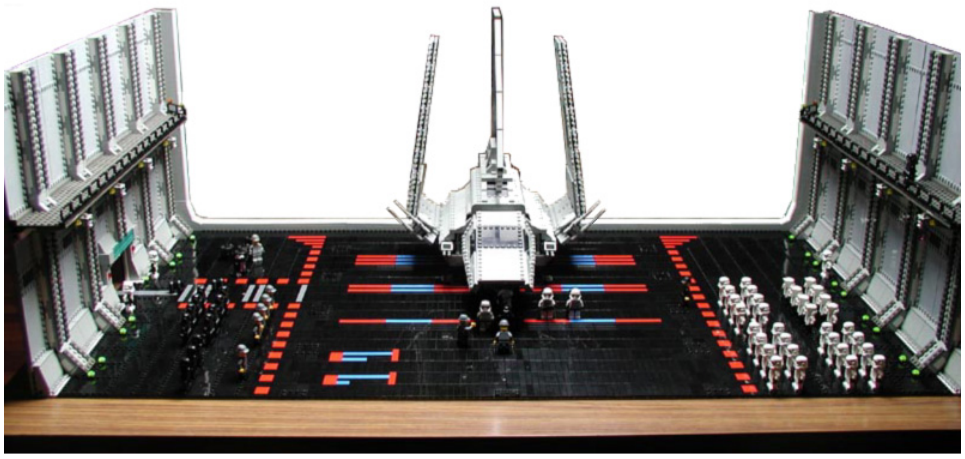


Photo 4

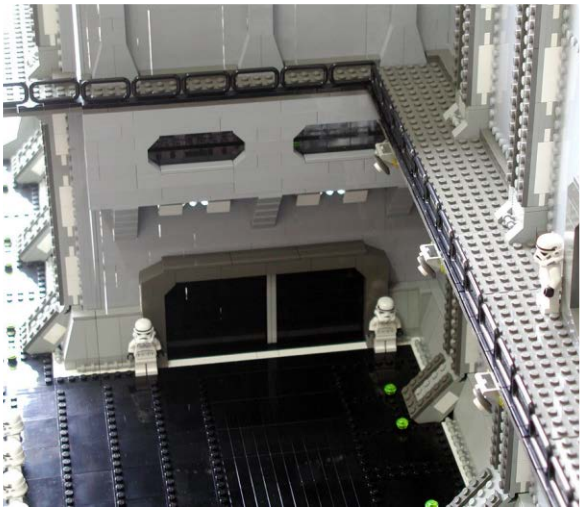


Photo 5

Phase IV - The exit gate.

With the shuttle completed (photo 2), I had the reference point to begin the construction of the hangar, because once the dimensions of the shuttle were know , it was easier to get an idea of the dimensions that the hangar should have. The next challenge was to finish the exit gate and complete the end of the hangar, doubling the wall modules and extending all floor modules to cover the 144 studs in width. The width of the hangar could be configured in various lengths, depending on the number of end modules built. With 4 16x32 baseplates there was enough place to deploy troops on both sides of the shuttle, bringing the whole display to life. A shopping frenzy of black tiles, modified tiles and plates light bluish grey, which lasted more than three months, resulted in a very significant expansion of the hangar (see photo 3), with 10 wall modules, meaning 80 studs of depth. The designs were made and I only needed to replicate them to increase the number of available modules till the desired amount. This phase reached an area of 144 x 80 studs with 10 wall modules, 5 on each side of the hangar runway.

Phase V - non-standard modules.

By the end of 2006 the presentation of the project in the forum HispaLUG was planned, so I needed to include some non standard elements. The idea was to use the previous designs of the already existing modules as a starting point to make new ones with minor modifications, in order to break the monotony. The new modules would include a door for access to the upper walkway and a pipe area, with their respective floor modules. The increase of the available surface allowed more minifigs, so twenty more of them were incorporated. With the last expansion, the hangar had 12 wall modules and 24 floor modules, with a total area of 144 x 96 studs and more than 80 minifigs.

Phase VI - New additions.

The year 2007 relegated the project to the background. The great advances of the previous year and the priority of other projects meant that I didn´t have enough time and resources to continue the expansion of the hangar, at least at the level of the previous year. However, the news related to the organization of the first AFOL event in Spain, the Hispabrick [5], at which the hangar would be present, encouraged me to make a new expansion, in order to make it more spectacular for the exhibition. One of the advantages of modular construction is that you can enlarge them by simply doing nothing but building more modules. And so two new wall modules were added with their respective floor modules, which increased the size of the hangar up to 144 x 112 studs. At this point the purely logistic issues arose, related to the transport and storage of the module. So before going further, I looked for different ways to store the modules assembled, and at the same time to transport them, avoiding changing the packaging for each exhibition.

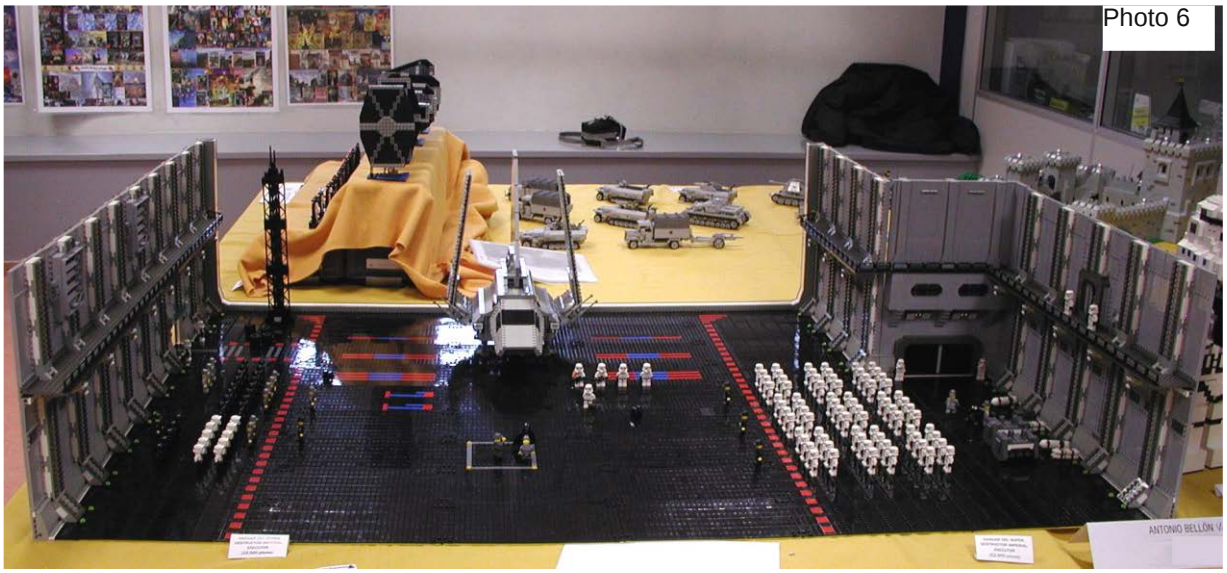


Photo 6

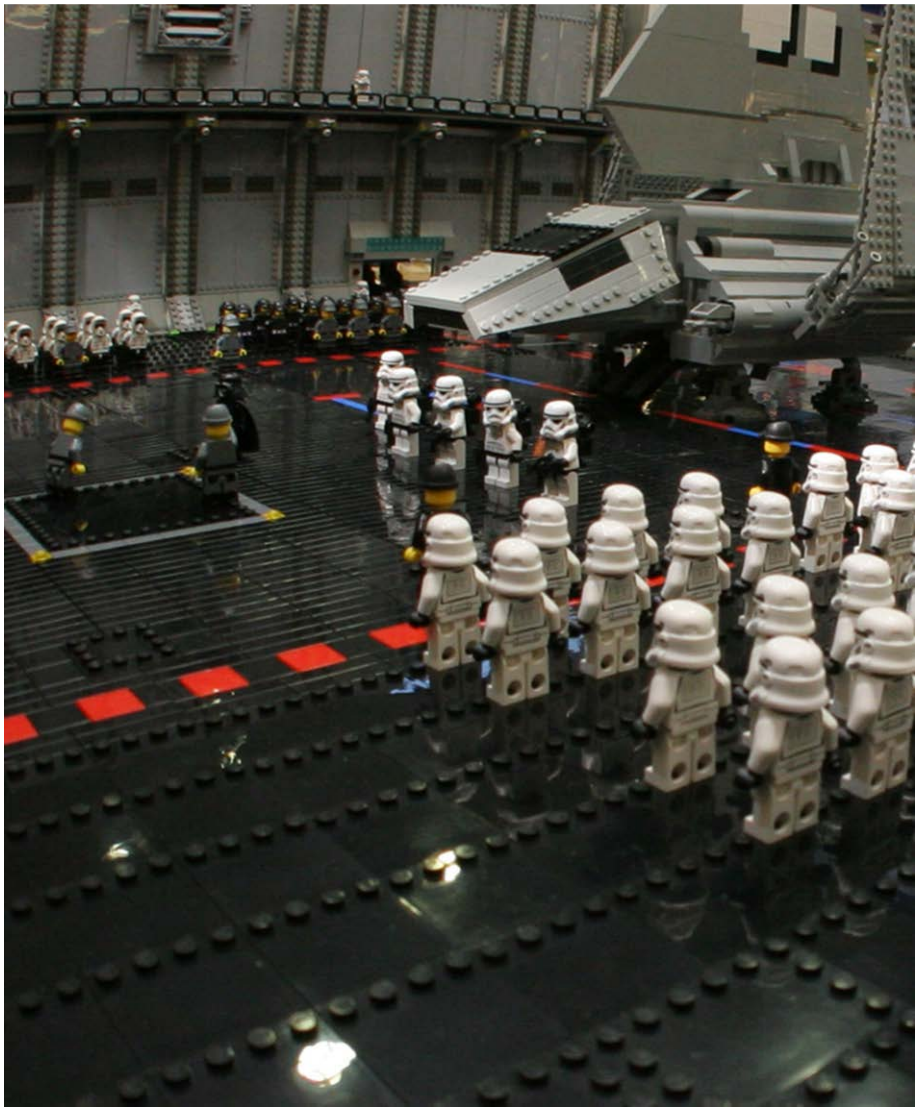
It should also make the enlargement process possible. As can be seen in the image (picture 4) such a volume of LEGO® elements requires some planning and organization to keep on building.

Phase VII - L-shaped extension.

The year 2008 brought new energies to the hangar. Once other ongoing projects were finished, this project became my main challenge once again. To begin with, the next public presentation was already scheduled in spring, at the 2008 Collector fair in Munguía/Mungia, which would be the deadline for this new phase. After the pause in the previous year, the construction of the display needed to speed up with new elements and ideas. I was looking for new designs to break the symmetry, so one of the sides could be used in the future for the development of completely new elements. One of the shortcomings of the hangar was the lack of modules that can display windows or large interior rooms, so I designed an entrance which included a new access to the hangar, and a new area where different cargo loading and unloading elements were placed. The new module (photo 5), besides being the largest of the whole complex, included small windows showing the interior corridor, illuminated by LED´s, and with a back opening to introduce minifigs. This meant that the width of the hangar should be increased by 32 studs, which required a large amount of black tiles in order to cover the newly created surface. By then, the entire hangar had an area of 176 x 112 studs.

Phase VIII - The vents.

After the 2008 Collector fair at Munguía/Mungia, I had to face the Hispabrick 2008. With a big pool of black tiles, a new extension of the hangar arose as necessary, with a new background section. After the last enlargement, the interior sections consist of 2 wall and 5 floor modules, so the hangar was wide enough to grow in depth. Now it would be an expansion without any new design, duplicating one of the existing ones. Taking advantage of the bigger space available for the runway, the number of troops could also be increased, so the overall result was more compact. No doubt the more troops, the more spectacular. These last two stages of expansion resulted in a considerable increase in size, regarding the display at the previous Hispabrick. However, following some interesting proposals on the HispaLUG forum on the addition of grebbles (a technique used to create all kinds of machinery and mechanical elements) to the MOCS, I decided to make a small attempt by placing a pair of vents on the two new wall segments which I was building, so I could add a few grebbles to the hangar. And with that, the display was ready for its trip to the Hispabrick 2008. The complete set had an area of 176x128 studs and more than 100 minifigs, my biggest LEGO construction to date.



Current status and future development.

By spring 2009 I had built more than 70 modules, with an overall surface of 208 x 144 studs, more than 13,500 parts and 120 minifigs. Looking back, the construction has been slow, but steadily growing. Having to share resources with other projects, the construction of the Imperial Hangar has been alive for over 5 years. Along its development, various problems have emerged and have been solved with enthusiasm and anticipation. As a curious detail, while I am writing this article, I still have not managed to assembly the complete hangar even once, with the assembly in the Fair Collecting Munguía / Mungia 2009 (photo 6) as the closest to reaching the complete assembly, because keep in mind that a lot of free space is needed to assemble it.

However, assuming that the small problems of such big construction have been solved, how will the hangar project be developed in the future? That is something that will be determined by many factors such as time and resources, but fundamentally by the desire to go forward. Forcing a hobby makes it an obligation, and that kills the project. Thus, while the enthusiasm lasts and there are new ideas for building, it can be consider an open project. Who knows, maybe by the time these lines see the light, there will be a new expansions on the way ...

References:

[1] Modular construction. Article in Hispabrick Magazine 001, Page. 20.
[2] Portal http://www.bricklink.com
[3] Munguia Bitxikiak collectors association. http://www.bitxikiak.org/
[4] LSWImperial, web page dedicated to LEGO® models related to the Empire. http://www.abellon.net/lswimperial
[5] www.hispabrick.com, web portal for LEGO fans in Spain.■