In the last few years we have seen the appearance of new technologies such as digital photography as well as developments in software and hardware. These resources have not passed unnoticed in the discipline of restoration; slowly incorporating themselves into some procedures.

Nowadays, these technological tools have opened up an area of infinite possibilities in chromatic reintegration and are being used to manipulate the digital treatments of original pieces and with it, their historical references. The advantages that they offer are clear given that, apart from being able to simulate and specify before the construction in virtual surroundings, they permit the materialization of the exact form without any errors.

Despite the advances made up until this point, there still exist some limitations in the representation of the printed form compared to the original. As an alternative solution to present processes, this thesis proposes the use of direct form of printing using the inkjet system.

To demonstrate the viability of the project, a series of prototypes of direct printing have been made. Following this first experiences of adaptation, optimised robotic solutions have been developed that illustrate the desired concept: adapting the printing devices to any type of surface to directly reconstruct the pictorial losses of any work.

Furthermore, a series of tests have been undertaken on walled surfaces that demonstrate the advantages of using the inkjet system in the reconstruction of originals.