A frequent NDT inspection in pipes seeks to maintain if the pipe wall thickness has been altered (eroded/corroded) over time. Even the slightest change can affect the pipes ability to withstand pressures and meet relevant operation requirements. The deterioration in the wall thickness of the pipe may even cause the total collapse of the pipe. Thus the accurate measurement of the pipe walls, is a vitally important test. The radiographic method, most used for this test is called Double Wall Inspection Technique. We will review various complications regarding double wall thickness measurement in general and specifically with digital radiography. The amount of material to be penetrated for good inspection, blooming effect (penetration vs. saturation), the implications of magnification (distortion and Unsharpness) and more will be explained. Method to counter problematic of the wall thickness measurement will be suggested. The situation where there is a huge discrepancy between the minimal thickness of material to be penetrated for the outer wall identification, and the extensive amount of material to be penetrated for the inner wall identification creates a conflict in X-ray exposure/ dose (energy level and time) for each of these measurements. An analysis of this problem and the theory behind its solution methods will be reviewed. A special solution with digital radiography, which enables automatic grabbing of more than one image and gathering all the data necessary for exact double wall thickness measurement, as well as measurement calibration methods, will be presented. Vidisco is happy to share its over 20 years of experience in the field of Digital X-ray inspections at WCNDT. Expertise that enables us to offer advanced digital radiography tools and solutions for NDT operators, which enable them to make the most of new technologies, increasing inspection efficiency and reducing costs.