We present a MATLAB software package with efficient, robust, and flexible implementations of algebraic iterative reconstruction (AIR) methods for computing regularized solutions to discretizations of inverse problems. These methods are of particular interest in computed tomography and similar problems where they easily adapt to the particular geometry of the problem. All our methods are equipped with stopping rules as well as heuristics for computing a good relaxation parameter, and we also provide several test problems from tomography. The package is intended for users who want to experiment with algebraic iterative methods and their convergence properties. The present software is a much expanded and improved version of the package AIR Tools from 2012, based on a new modular design. In addition to improved performance and memory use, we provide more flexible iterative methods, a column-action method, new test problems, new demo functions, and perhaps most important the ability to use function handles instead of (sparse) matrices, allowing larger problems to be handled.