Based on our understanding from your letter, your security has been compromised through the use of mobile devices and specifically your employees sending text messages to one another. By taking into consideration all of the characters used in text messages, what follows is a strategy we have come up to encode each one. As you can see it is quite easy to follow and should thus help you accomplish the secure communication you desire to happen between your employees.

To begin with, we decided to base our method on three-digit numbers. By taking a pool consisting of all the numbers from 100 to 999, we have a lot of options to represent each respective symbol that will be used in your employees’ text messages. After establishing this pool, we can randomly assign a three-digit number to any one of these characters through the use of the =RAND() function in Microsoft Excel. This function is necessary as it will randomly generate non-repeating numbers between 0 and 1. In this way, all characters can be given a random place-holder (as seen in the method below) and no two characters will be assigned the same value.

An effective procedure for accomplishing our task at hand is to first list all the characters your employees may use in column A. Thus, you may choose to put the symbol “A” in cell A1, “B” in cell A2, “a” in cell A27, “(space)” in cell A63, and so on. Once this column has been completely filled in, you can then fill column B with the numbers 100 through 999. We had 100 in cell B1, 101 in cell B2, and so forth. Upon finishing column B, we then filled column C with
the function =RAND(). For this to work, this function must be in present in each cell next to a filled cell in the B column. Thus, if you have 200 in B200, you will need the =RAND() function in the corresponding C column. From here, select columns B and C and then click on the Data tab. Under the new list of options, there will be a Sort option. By selecting this and choosing to sort the selected cells by Column C and organizing it according to values from lowest to highest, the selected cells will then shift so that Column C values increase from the lowest value in cell C1 to the highest in cell C900. Column B shifts accordingly (for example, if 762 had originally been next to a cell in column C that was then shifted up to C1 after sorting the data, 762 will then be in B1). Thus, you now have a randomly determined three digit number in a cell directly next to each of the characters you desire to encrypt. In our example, if we had “A” in cell A1, “A” will be denoted by 762 in the code.

Our strategy will successfully encode your text messages because each character will be represented by a unique three-digit number, which is randomly determined each time this method is employed. We feel it will be a viable option for your company for many reasons. First, we have taken out all spaces by also giving the space character a three-digit representation. Because of this, it will be a lot more difficult for anybody to try to determine the actual wording of the message through the usage of word and sentence structure. Second, depending on how you decide to program your app, the key can change very often and work just as well every time. For example, the app could be used to change the key every day or every week to further ensure the security of your messages. Third, the encrypted message will definitely keep most outsiders at bay as it would be incredibly tedious just to organize it to the point where they would be able to begin deciphering it. We hope that this method has reached your expectations and we look forward to the future security of your business communications.